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Canada Royal Commission on
employment of firemen on diesel
locomotives in freight and yard
service on the Canadian Pacific
Railway.

Proceedings 1957

No. 16—18



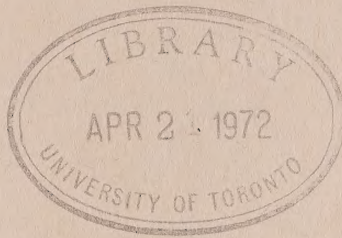
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**ROYAL COMMISSION ON EMPLOYMENT OF FIREMEN
ON DIESEL LOCOMOTIVES IN FREIGHT AND YARD
SERVICE ON THE CANADIAN PACIFIC RAILWAY**

11
16-18

PROCEEDINGS



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E. L. FEATHERSTON
SHORTHAND REPORTER
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OTTAWA, CANADA

Hon. Mr. Martineau

I N D E X

WITNESSES:

ALVER, Anton,	
Exam. by Mr. Lewis	2032
Exam. by Mr. Sinclair	2086
FRAINE, John Norman	
Exam. by Mr. Sinclair	2091

EXHIBITS:

No. 64A - Discipline of yardmen and engineers, Montreal, 1956	2092
83 - Basic statistics, CPR, 1956	2093
84 - Timetable 118, Nipigon Division	2113
85 - Orders to Train Second 952	2145
85A- Clearance to Train Second 952	2145
85B- Clearance to Train Second 952	2146
85C- Clearance to Train Second 952	2146
85D- Clearance to Train Second 952	2146
86 - Photo, Engine 130	2165
87 - Photo, Engine 30	2166
88 - Photo, Engine 636	2167
89 - Photo, Engine 686, cab	2168
90 - Photo, Engine 5713	2169
91 - Photo, Engine 5181	2170
92 - Photo, Engine 5181, cab	2172
93 - Photo, Engine 2300	2173
94 - Photo, Engine 5303	2174

ERRATA

Please make the following corrections on the pages indicated.

<u>Page</u>	<u>Line</u>	<u>Now reads</u>	<u>Should read</u>
<u>Volume 3</u>			
365	18	aphabetically	alphabetically
379	22	delete "of"	
390	12	engine	engineer
411	13	he	it
<u>Volume 4</u>			
437	22	attaching	detaching
445	27	floodlamps	lamps
446	15	conduct	contact
448	7-8	switches	switchers
449	1	travel	transfer
467	3	locomotive was	locomotive was equipped
467	4	breech	brick
475	23	is	was
490	11	foreman	fireman
551	30	Carter	Koster
<u>Volume 5</u>			
554	3	car	power
568	23	period	territory
<u>Volume 7</u>			
852	17	are located	are located close
870	19	engineers	engineer
870	21	to a coupling	to make a coupling
878	27	plumping	lump
879	16	transports	transfers
879	29	transports	transfers
380	2	feat	feet
883	4	I	that

ERRATA

<u>Page</u>	<u>Line</u>	<u>Now reads</u>	<u>Should read</u>
<u>Volume 7</u>			
933	20)		
933	22)	end	N
933	26)		
934	4	approached	pushed
934	4	end	in
935	1	end	N
937	2	man	men
944	21	he	I
968	19	type	pipe
969	1	speec	speed
970	15	steel	steam
994	23	up	over

<u>Volume 9</u>			
1018	6	dipped	dead
1049	15	end	N
1049	17	end	N
1082	2	work	track
1082	5	clear	hold

ROYAL COMMISSION ON EMPLOYMENT OF
FIREMEN ON DIESEL LOCOMOTIVES IN
FREIGHT AND YARD SERVICE ON THE
CANADIAN PACIFIC RAILWAY

Proceedings of public
hearing held at Ottawa,
Ontario, Wednesday,
March 27, 1957

PRESENT:

Hon. R.L. Kellock,	Chairman
Hon. C.C. McLaurin,	Member
Hon. Jean Martineau,	Member
Douglas M. Fraser,	Secretary
A.R. Winship,	Asst. Secretary

APPEARANCES:

D.W. Mundell, Q.C.	Representing the
C.J.A. Hughes, Q.C.	Commission
I.D. Sinclair,	Representing the
Allan Findlay	Canadian Pacific Railway Company
David Lewis,	Representing the Brotherhood of Locomotive Firemen and Enginemen

Wednesday,
March 27, 1957

16TH DAY

MORNING SESSION

--- The Commission opened at 10.30 a.m.

ANTON ALVER, Recalled

MR. LEWIS: Before proceeding with the questioning of the witness, my learned friend yesterday, if I remember correctly -- I took no notes so he will correct me if I am wrong, said to the Commission in connection with my mentioning the names of engineers who had had seizures and the like on engines, that the company had searched their medical records and of the names I had given previously they had found only Bloodsworth, and he gave some details with regard to that man. Then if I remember correctly, he said they could not find anything about anyone else.

MR. SINCLAIR: Some of the others --

THE CHAIRMAN: Mr. Sinclair was going to make a search.

MR. LEWIS: With great respect, if I may have your permission and in defence of my advisers as well as myself, I should like to point out to my friend that in Volume 7 at page 863 is mention of three names, namely, Bloodsworth, Kennedy and Smythe. My friend has said that he found something about Bloodsworth. Smythe was one of the people this witness remembered before even I questioned him. I am told that there is no doubt about Kennedy having had something happen to him.

THE CHAIRMAN: Mr. Sinclair will have another look.

BY MR. LEWIS:

Q In that connection, Mr. Alver, do you remember Engineer W. J. Kendall?

A I remember Kendall, an engineer, yes.

Q And something happening to him while he was on duty?

A I cannot recall anything happening to Kendall. It may have, now; I wouldn't say for sure; I do not recollect.

Q I am instructed that it was not so long ago, Mr. Alver; that it was only in March, 1956?

A I ought to have a recollection of it if it happened.

MR. LEWIS: Mr. Chairman, in connection with this item, and this may be of some relevancy, I would respectfully suggest if I may that the company prepare from its records from 1946 through 1956 -- I am sure their medical records are not likely to have been destroyed -- a list of accidents of this sort, of any sort affecting engineers while on duty, while they are being paid whether the engine was in motion or standing. What weight the Commission may give to that information is something else, but it seems to me to be the kind of information that the Commission should have.

THE CHAIRMAN: I understand that that is the sort of thing Mr. Sinclair was going to look for, but you did not mention 1946 yesterday.

MR. LEWIS: No. I understood also

that it was limited to the Toronto Terminals and I am talking about the incidents system-wise.

MR. SINCLAIR: I do not know whether I can do it for ten years, but I shall find out. I will get what information we have, but generally speaking we have a seven-year rule and I may not be able to get behind it unless I can go into the staff records.

THE CHAIRMAN: You see what you can do.

MR. SINCLAIR: I will.

BY MR. LEWIS:

Q Now, at adjournment I was asking you about Exhibit 80, being your observations on actions of firemen. I do not think you need turn it up for the moment because I am interested in one matter particularly. Did I understand you correctly to say in connection with several of the pages that the habit of calling car lengths had developed only in the last eight or nine months?

A That is correct.

Q You did say that?

A I know that.

Q Well, I am instructed, Mr. Alver, by men who have worked on your railway 10, 20 and more years, that the practice of calling car lengths, this practice of firemen calling car lengths has been there from the first day each of them

came into the service. What do you say about that?

A Not in yard service. The only one that had car space signals was the trainmen, and they give those signals like this (indicating) for the car space. That is the only car space signal.

Q You tell me that before eight or nine months ago a fireman would not call that signal?

A It may have been done, a fireman might do it, but it was not the general practice.

Q That is from your knowledge?

A That is from my knowledge.

Q I will confine myself to yard service for the record. I am instructed by those who have been in the yard service in Toronto and elsewhere for the Canadian Pacific that this practice has been so since the first day they came into the service. What do you say to that?

A Not to my knowledge.

Q Have you in connection with this discussed with engineers in your service whether or not they find this car calling of any assistance to them?

A I have not discussed it with firemen or engineers.

Q Except for the discussions which you refer to in one or two places in Exhibit 80?

A That is right; that is the only discussion I have had with engineers.

Q Do you recall that on page 6 the engineer's reply was that it gave him an idea how far before the coupling has to be made?

A That is correct.

Q You would gather from that, would you not, that that particular engineer found the information of assistance?

A No. He was working on hand signal indications. All he had to do was work that engine according to the signals given by the ground crew. He was keeping his eye on the ground crew and the information came through from the fireman's side of so many spaces.

Q You have not it before you, and I do not blame you, but it was not according to signal. I apologize, on page 6 of Exhibit 80 the engineer asked the fireman if there were any cars in the siding and the fireman replied that he couldn't see. When you asked the engineer why he asked the fireman for the information the engineer replied, "It gives me an idea how far before coupling being made"?

A That is correct.

Q I am asking you whether you would not conclude from the engineer's answer that he at least found such information helpful?

A I do not know whether they were just putting it on for my benefit or not on the engine, because he was working to hand signal indication

with the yardman who was not 30 feet away from him. That is the man he works for. That is the signals he has to accept. He cannot move that engine unless he works on that signal indication.

Q I appreciate that that is your position. What you are saying now is really that you are suspicious, that you don't know exactly what it meant?

A That is right.

Q With regard to trespassers in your yards, you said that you were bothered with trespassers only at Parkdale yard?

A That is all, sir.

Q Perhaps it escaped you to think of the east end of the West Toronto yard in the vicinity of the Maple Leaf Milling?

A There is none at all or very little because I have not seen it. Our police department have not made any reports to me lately. That was cleaned up years ago, several years ago.

Q Again I am instructed and perhaps it will be presented to the Commission at a later stage, that there is a great deal of trespassing at that end of your West Toronto yard, that people cut across from Indian Grove by your freight shed to go to the Gurney Foundry and the Maple Leaf Milling, and that they do that all the time. You do not know about that?

A I cannot go for that.

Q Pardon?

A I cannot go for that.

Q You do not go for that?

A No, because there is a policeman down there all the time in that vicinity and I know they are turning them back, anyone that goes up to go across there. We have penalized our own employees for going across the track.

Q That is your knowledge? Just one little question with regard to Exhibit 82, the final inspection exhibit. I noticed last night when I studied it more carefully that four of the engines on which you report were road freight engines, four of the six, two steam road freight and two diesel road freight?

A That is correct.

Q Did you inquire whether any of those four engines or trains had been held up by waiting for space in the yard before they came into the yard?

A No sir, I did not.

Q Pardon?

A I don't know, sir, whether they were held up or not. That is what you mean?

Q Yes, held up; you did not inquire?

A No, I did not inquire.

Q You told me yesterday in answer to some questions that it frequently happens that

you do have to hold a train out because of congestion in your yard?

A That happens quite often.

Q If it had happened to any one of those four cases it is likely that the crew took advantage of that and did whatever final inspection work they had to do while they were standing outside the yard; is that possible?

A It could be, but they are going through the final terminal time after they arrive on the shop track.

Q I appreciate that. You would say that you would not want to pay them twice if they had that time to do it there, you would not want them to get final inspection pay as well? I appreciate that, but I just wanted to get the facts on the record.

THE CHAIRMAN: He says he does not know.

BY MR. LEWIS:

Q I want to turn now to this question of bulletins, Mr. Alver.

MR. LEWIS: If I may say so, Mr. Chairman and members of the Commission, I think that this point is of some importance and I would like to ask the witness some questions with regard to it.

BY MR. LEWIS:

Q You issued your first bulletin with regard to proper positioning in the yard on August

16, 1956; is that right?

A That is correct.

Q That is Exhibit 76?

A Yes.

Q By that time you had been over 30 years an officer of the company beginning as yardmaster in 1924; that is right? My notes are right?

A That is correct.

Q You said also yesterday in giving evidence on this point that while the Uniform Code contained a rule as to where trainmen are to be, there is nothing in the Code that covers the positioning of yardmen?

A In every move.

Q I think you also informed the Commission -- I just want to make sure -- do I understand you correctly that you said that sloppy habits had developed?

A That is correct.

Q What astounds me, and I would be grateful to you if you can explain it, is how it is that you personally would permit those sloppy habits to continue for a decade and nothing be done about them until August, 1956?

A I didn't say how long they had been sloppy.

Q You tell me now how long they had been sloppy.

A It was just brought to my attention when I heard it in this court room on August 9, when Mr. Baker gave evidence that they were making

radar couplings and sometimes using the fireman.

Q What was that?

A They were making blind couplings in the middle of sidings without anybody attending to them.

BY THE CHAIRMAN:

Q Making radar couplings without radar, you mean?

A That is right; that is the sloppy work.

BY MR. LEWIS:

Q And giving signals to the fireman was included in that?

A Sometimes they did and some days they didn't give none at all, and they were taking longer cuts than they should have.

Q And you did not know anything about any of that until you heard it in this court room on August 9, did you say?

A I think it was August 9, when Mr. Baker gave his evidence.

Q You did not know anything about that until you heard it here?

A I never seen it, no.

Q I think you told the Commission that when you were yardmaster -- correct me if I am wrong; I didn't take it out of my notes -- you would spend three-quarters of your time on the ground?

A That is correct, out in the yard.

Q And that when you were General Yardmaster you spent 50 per cent of your time on the ground?

A That is correct.

Q And that when you were Assistant Superintendent

you spent three-quarters of your time on the ground?

A Three-quarters of my time on the ground.

Q And when you were Superintendent you spent one-quarter of your time on the ground?

A That is correct.

Q You are now telling me that having spent three-quarters and half of your time in 30 years on the ground observing movements, you did not know anything of these things until you heard them here on August 9, 1956?

A That is correct. When I observed conditions going on in the yard at all times, and when there are any exceptions to be taken, I make them right there on the ground, take it up with the man right there. This man came down here and told the Commission what was going on, and that resulted in the bulletin.

- Q Mr. Alver, are you suggesting that in all those 30 years you had not known that signals were given to the fireman when the ground crew found it more convenient?
- A On occasions they have been given to him.
- Q And you knew that?
- A I knew that in certain localities they were given to him. They had to be given to him.
- Q In certain localities they had to be given, but did you not know that throughout those years that they were given in other localities where, in your opinion, it would not be necessary but where the ground crew found it more convenient?
- A Once in a while, yes, sure I did.
- Q Yes, you did, and you knew over all these years, because you could not spend so much time on the ground without knowing, that they were taking long cuts, didn't you?
- A They were taking long cuts at times but they would only take long cuts when I was out of sight. They would not take long cuts when I was there.
- Q But you have known for many years that long cuts were taken?
- A Yes, I knew there were longer cuts taken. There are places where you can't take long cuts and there are places where you cannot take long cuts, and get away with it.
- Q Mr. Alver, did you or did you not know that long cuts were being taken as a practice in

instances where you would now say it was not proper? Did you not know that?

A The yard foremen take the cuts on their own imagination or their own prerogative. They made the cuts. A lot of them used good judgment. Some of them did not use good judgment.

Q And what I find it so difficult to understand is why it was not until after this issue was raised in 1956 and hearings had been held on this question that you issued your first bulletin with regard to all these matters?

A As I told you, it was on the evidence of Mr. Baker that he brought here that these bulletins were issued.

Q Mr. Alver, you have also just agreed with me that regardless of Mr. Baker's evidence you knew about some of these practices before?

A I knew some of them. I did know of some of them.

Q And you took no action about them?

A No, I did not.

Q I suggest to you that you took no action about them because you did not really think that these practices were in any way unsafe or inefficient or undesirable?

A No, sir, I would not say that.

Q Then, would you agree with me that you did not take any action because in most cases they were not unsafe?

A When the supervisory officer steps into the yard it just spreads like a grapevine, like wildfire,



and they all knuckle down and do their stuff.

Q Mr.Alver, you did not really consider that giving signals through the fireman where the ground crew found it a little easier or more convenient was an unsafe practice in those years? You did not really consider that, did you, Mr.Alver?

A Once in a while I let them get away with it. Once in a while they done it but it was not right. It was not the established practice.

Q Mr. Alver, may I, with the Chairman's permission, tell you what I said to another witness earlier, that I have no quarrel with the idea that it is desirable to give signals directly to the engineer. Obviously if he is to go by your signals it is better that he get them direct. There is no quarrel about that. What I am saying to you, what I am suggesting to you is that in all those years before August, 1956, in the exceptional cases where the men did give signals through the fireman, even where you think it was not necessary, you did not really consider that practice was unsafe until this argument arose last year? That is what I am suggesting to you?

A Well, we did not depend on the fireman during the steam days. When we had steam engines there we never depended on the fireman to take a signal. After the diesels came in the fireman was there and sometimes they used him to pass signals just for their own convenience.



Q Mr. Alver --

A And it was safe to do that at that time.

Q It was safe to do that?

A At times, yes.

Q Mr. Alver are you --

A Because he was there as a member of the crew.

Q Mr. Alver, are you suggesting now as part of your answer that in the steam days the practice of passing signals through the fireman was not followed

A Not followed unless it was prearranged at the time.

Q Prearranged between whom?

A The fireman and the engineer.

Q Yes, and to your knowledge --

A It was prearranged for any time we wanted to pass a signal through him. We had to tell him, "You get up there and skin your eye; we want to give you a signal."

Q This prearrangement occurred between the engineer and the fireman even in the steam days, did it not?

A Prearrangement, yes. It was not the established practice. We did not depend on the fireman. We had to go and tell him, "We are going to pass signals through the fireman; you get up there and skin your eye."

Q Who had to go and tell him?

A The yard foreman.

Q The yard foreman when he was on the engineer's side had to give some kind of sign to the engine

crew that he was going over to the other side?

A Yes.

Q And that is something he would have to do?

He would not simply disappear?

A Since the diesel came in they do not make any prearrangement.

Q You mean he just disappears out of the engineer's view?

A It is the established practice for him to work with the engineer on the diesel engines.

Q You said before that it has happened where they passed them through the fireman?

A Some persons or men will cut corners and contravene the established practice when the supervising officers are not around or in sight.

Q As to these longer cuts, one of the practices covered by your bulletins, what do you think is a safe cut of cars?

A I would say 15 to 20 cars is a good cut to handle and get rid of ^{on} the lead in order to let other movements make a move.

Q And I am suggesting to you that before this bulletin and for many years you knew that longer cuts were taken by the yard crews?

A Yes, I knew there were longer cuts taken at times, sure.

Q As a matter of fact, Mr.Alver, if you had a crippled car which was the thirtieth or thirty-first car on the track, would I be wrong in suggesting to you that it was the almost universal practice

to take thirty or thirty-one or thirty-two cars all in one cut and get rid of the crippled car and push the cars back again?

A Absolutely. That is the practical way to do it.

Q That is the practical way to do it?

A Yes sir.

Q And it is still the practical way to do it?

A Sure. If you have to reach in 30 cars to throw out one car you would not make two cuts to get it out.

Q You would not do it even now, would you?

A No.

Q That would be one of the exceptions to your bulletin?

A That would be right, if it was necessary and in other cases where we pull large cuts so as to get the train in off the main⁴ line to clear passenger trains.

Q And in a busy yard like yours that would happen pretty often?

A It happens once in a while that you have got to clear a large cut in order to clear a track to receive a train standing out on the main⁴ line waiting to get in and a passenger train pretty near due behind.

Q You say it happens once in a while?

A Yes.

Q Does it not happen once every day in your busy yard?

A I would not say once every day.

Q Once every second day?

A Two or three times a week.

Q That is not once in a while, I suggest to you?

A Two or three times a week.

Q Two or three times a week and in some weeks perhaps more often?

A It could be that, yes.

Q And these long cuts are taken and have been taken for years by the yard crews?

A Yes, they have taken longer cuts at times.

Q And in spite of these practices --

A Different yardmen, yard foremen, have different ideas on the manner in which to handle cuts. They have all got different ideas.

Q No doubt.

A And every cut is different. They are not all the same kind of cuts. The disposition of cars, if you get hold of them, they are sometimes easy and sometimes very difficult to get rid of.

Q And it depends a great deal on the judgment and the competence of the yard foreman as to just how he arranges his strategy with regard to the cars?

A That is correct.

Q Right?

A That is correct.

Q Again with regard to these cuts of cars, in all those years did you ever issue a single bulletin concerning the length of cuts of cars that you can remember?

A No, we only talked about it.

Q Never once did you issue a bulletin though?

A No, never went on a bulletin.

Q Not until after this issue --

A That is correct.

Q -- arose last year?

A That is right. You have got to start some/ime.

Q Pardon?

A I say you have got to start some/ime when you hear of conditions that are not just right and I was caught by the need of putting out a bulletin after what I heard.

Q You have made that clear and the timing of "some/ime" may be of some significance, Mr.Alver, I suppose. What other conditions were you trying to change through these bulletins?

A Well, the one of the engine follower staying at the switch in order to get the switch lined or to accelerate the movement coming out on the siding, the reverse movement. They were not all doing that. We have had a terrific turnover of new yardmen in our Toronto terminals in the last few years and we educated them by the assistant superintendents and these last two new safety and training instructors, and we followed up, we started then to follow it up with this bulletin, by adding that last paragraph in there.

Q By the way, just how big a turnover of yardmen have you had?

A. Alver

A We have hired, I think it is 92 yardmen last year, in 1956.

Q And what was your monthly average of employment of yardmen in 1956?

A They were coming and going all the time. Ninety-two is what remained.. I would say we had 150 but a lot of them got out after two or three days' work or a week's work. Some of them did not come back at all.

Q And your turnover would be what, about 75 per cent?

A It is 150 against -- I would say we retained about 90.

Q And all these new men are hired straight on as yardmen, are they not?

A That is correct. We take them off the street.

Q And what training do they get?

A They get training by the assistant superintendent and the training instructors and they make two days trial trips on their own as a member of the crew -- not as a member of the crew, following the crew and watching and observing what the paid men do, and the third day they go out for regular pay as a member of the crew.

Q And I suppose also, to complete the record and to be fair, you have them write the rules or some portion of the rules?

A Yes, they write the "B" book before they start to work at all and they are given the safety book, talked to on safety and instructed on it, and they are given some of the most critical

A. Alver

errors that yardmen make. They are pointed out to them so they will not get into them.

Q And after this very short while of training they become members of the crew?

A They are attached to what we call the spare board and they go on every job around the terminals, one day at a time.

Q And usually they are the people who are put on as engine followers?

A Yes, I would say so. They usually follow the engine.

Q Do you know anything about the training of the firemen?

A In fact I have always told any new man when he goes out on his first day's paid trip to tell the engineer that you are a new man in the yard and you don't know much about it and I say, "He will do a lot to help you out and look after you."

Q Do you know anything about the training of firemen at the Toronto Terminals; they also come under your jurisdiction, do they not?

A Yes, they do.

Q First, have you had much of a turnover in the firemen or helpers as they are referred to, in 1956?

A Quite a turnover in 1956, but I do not know just exactly what it was; but we draw our firemen out of the shops, as a rule, shop labourers, those who are considered efficient enough to warrant promotion. They are advised that they can go out on trial trips, and one thing and another, and then these engineers okay them as firing stokers, straight steam-shovel engines, and then when the time comes that they want to put some more men on the spare board they put them on, but in the meantime they write their "B" book.

Q They may have been in the shops quite some time; they usually are about a year?

A About a year, a year and a half, sometimes two years.

Q They have some opportunity on those trips to observe the yard operations, do they not?

A They are working around these engines all the time; they get familiar with the feel of it.

Q Get familiar with taking and giving signals

as well?

A Yes, sure they could.

Q Then, you say you send them out on student trips -- for how many trips?

A I guess three trips they make on road service.

Q Each time with a different engineer?

A Different engineer.

Q They have to okay them?

A They have to okay them, yes.

Q In their okay, am I right in suggesting to you they would take all of his -- that is, if they did their duty -- they would take all of his capabilities into account?

A Well, he okays him to the extent that he figures this man is good material to become a fireman. That is about what he says.

Q In that would be included his knowledge of signals and the like as well, would it not?

A Well, I imagine it would; I do not know what he includes, but he just says this man is good material to become a fireman.

Q In view of what you have just told us, Mr. Alver, you still are ready to insist that having this completely new, untrained engine follower there without the fireman would not in any way increase the hazards involved in yard service? That is still your opinion?

A Not if he has been trained to the duties of yardmen are very simple; they are very simple, very easy. It only takes about two or three

days to catch on and you have got it.

Q Including the avoiding of accidents and fore-seeing possible affairs and all of that?

A If a man is safety minded, safety conscious he can go around there for years and never get a scratch on him.

Q You think all of that can be obtained by a yardman in two days of trips, a new yardman who is just on the job?

A He gets a really good picture of this. I was talking of the last eight months of yard training in Toronto.

Q That takes me to the next point. You started and safety/instructions, I think you said, yesterday, seven months ago?

A Seven or eight months ago.

Q That would be roughly about the same time as you issued your first bulletin in August, 1956; is that right?

A Somewhere around that, yes, sir.

Q In all of the years that you were assistant yardmaster, yardmaster, assistant general yardmaster, general yardmaster, assistant superintendent and superintendent for over 30 years you never had any such safety and instruction arrangements?

A No; we were trying to handle that ourselves by holding classes all the time around the terminals at different points.

Q You found out they were --

A We found that we had too much to handle; we eventually had to ask for assistance and getting these two men appointed.

Q You did not learn that you had too much to handle until August, 1956?

A Well, we struggled along, to do the best you could with what you have.

Q And it was not until August that you realized that you had to have this?

A That is right.

Q Now, then, Mr. Alver, you told us yesterday that there were five places in the Toronto Terminals where signals had to be given on the fireman's side?

A That is correct.

Q Right?

A Yes.

Q They were not, I notice, Mr. Alver, the same five places that you gave last November in evidence on this issue before another tribunal?

A Yes.

Q It is interesting; I would like to find out why. Do you recall giving at that time two places which you gave this time, namely, Toronto elevators and terminal warehouse. Do you recall that?

A Yes.



Q Do you recall giving last November other places, namely, Loblaws Warehouse, the Liquor Control Board and Dr. Ballard's?

A Yes.

Q Do you remember that?

A Yes, sir.

Q Has anything happened to change the situation at these three places, Loblaws, Liquor Control Board and Dr. Ballards?

A Yes. We found out that since that time we could spread out enough to give signals to the engineer to do it. It took time to do it, slower movement.

Q You have found out you could do it through the fireman's side?

A Yes.

Q But slowing down the movement?

A Yes.

Q Just how much slower did the movement become?

A Oh, it might effect, -- three, four or five minutes, that is all.

Q Three, four or five minutes --

A It does not mean nothing in industrial service; it does not mean practically any delay.

Q I want to get an idea of the proportion of delay involved. Would it take a 100 per cent longer, 50 per cent longer, or what, because I have no idea how long it

would take.

A Switching ordinarily takes half an hour, and you can do it in 35 minutes.

Q That is why --

A In the revised way of doing it.

Q Exactly what have you done, to give the Commission the picture?

A Spreading the men out on the proper side, on the right-hand side and making the movement slower.

Q Making the movement slower. How does that effect whether or not the engineer can see the signals?

A Your front end man stands out in the corner, spreads out as we call it, so he can see directly down in between the buildings and the cars on the engineer's side.

Q He goes a distance away from the engine?

A Yes.

Q Is that it?

A Yes.

Q How far a distance?

A Twenty, twenty-five feet.

Q Excuse me a moment. I do not think it is really helpful to the Commission to deal with the three together because I do not suppose the ~~circumstances~~ are exactly the same in each of the three.

A They are in different areas, different types of ground.

Q Take Doblaws warehouse?

A Yes.

Q What do you^{do}/there now that you did not do before?

A We put the man out on the C.N.R. lead to give the signals to the engineer from the field man to the engine follower. He gets out now on the C.N.R. lead.

Q You mean standing on the track?

A On the track, yes.

Q On the C.N.R. track?

A It is a switching track.

Q Giving signals to your crew?

A Yes.

Q How far away is that from your engine?

A Before that they were doing it on the fireman's side.

Q How far away is this C.N.R. lead from your engine?

A They both come down together; that is where the C.P.R. and the C.N.R. meet to come down to the waterfront.

BY THE CHAIRMAN:

Q You were asked, how far away, Mr. Alver?

A Twenty-five feet.

BY MR. LEWIS:

Q Now, what about the Liquor Control Board? What have you done there?

A We done the same thing there at the Liquor

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Control Board.

Q Are these places one beside the other or close to each other?

A No; the Liquor Control Board is east of Yonge Street and Loblaws is on Bathurst and Fleet.

Q What have you done in the Liquor Control Board case?

A We had the Victory Mill engine switching instead of the other engine.

Q Does that mean that the man takes --

A Changes the hours of switching at the Liquor Control Board so we had the engine facing the proper direction east; he could work direct with the engine.

Q You have the engine facing the opposite way from the way --

A Two assignments down there, one works 7 to 3 and 3 to 11 and the other works 10.00 a.m. to 6.00 p.m. Instead of having the 3 to 11 do the Liquor Control Board, we had the 6 to 10, that is, the Victory Mills job do it; it was headed the proper way to go in there.

Q What did you do in Dr. Ballard's case?

A Dr. Ballards is located on Parkdale behind the yard office, and they had the habit of keeping their platform loaded with their material and merchandise, whatever you call it, tin cans, and that was not giving you the clearance to go in there, so we went to

Dr. Ballard's and we had them clear their platform off so as to give us a four foot walk way on their platform. That solved our problem.

Q Is there not some curvature there as well?

A The platform is straight; tangent track.

Q In Exhibit No. 72, which is a sketch of the Metropolitan Terminal you have in the lower left part of it Keating Street yard.

THE CHAIRMAN: Lower right.

BY MR. LEWIS:

Q Lower right; I beg your pardon; Keating Street yard?

A Yes.

Q Is that in the Ashbridge's Bay district?

A That is in the Ashbridge's Bay territory, yes.

Q When you say "Ashbridge's Bay", it takes in that yard as well; is that correct?

A That is correct.

Q You informed the Commission yesterday there were two Canadian Pacific engines working in that area?

A Yes.

Q Do you know that there are also C.N.R. engines working in that area; is that not right?

A Yes, C.N.R. engines, too, two or three of them.

Q Two or three C.N.R. engines, and you work the same tracks, many times?

A No, our work is split; we divide the work so our engines are separated all the time to get the work done for the industries. They take the west half of Ashbridge's Bay to do work there and we take the east half and do that.

Q You take your cars --

A We interchange cars with one another at the Keating Street yard.

Q So that in the Keating Street yard itself you have four or five engines working?

A There is only one or two at a time.

Q One or two at a time?

A You can only work one engine in the yard at a time at either end.

Q That would be one at one end and one at the other end?

A It could be, yes.

Q Now, how does the locomotive face in yard work . in the Keating Street yard in the industrial switching from that yard?

A Sometimes they are headed cab first and sometimes they are engine first.

Q Well, in switching at Shell Oil, for example, how is the engine headed?

A Right now the engine is headed east.

Q The engine is headed east?

A That is correct.

Q And the cars are coupled to the nose of the locomotive?

A To the cab of the engine.

Q To the cab of the engine?

A To the cab of the engine.

Q Mr. Alver, let us take two or three more points before I put the question. On Keating Street at the point where Shell Oil, Dominion Tar --

A Cities Service, Dominion Tar.

Q Cities Service; at that point am I right in suggesting to you that the road, which is Keating Street itself --

A Keating Street itself, yes.

Q -- is a two-lane highway, with one lane going east --

A A regular city street, yes.

Q All right.

A A regular city street, two-way traffic.

Q It is a two-lane road with your track going right down the middle of that street?

A West of Booth Avenue there is a service track that runs down the centre of the street -- boulevard in the centre of the street.

Q Boulevard in the centre?

A But it is not at the Shell siding. The

- 2063 -

Mr. A. Alver

Shell runs directly off the lead right
across Keating Street.

A.Alver

Q But at that point is Keating Street not there with one lane running east -- the road I am talking about -- and the other lane west?

A That is west of the Shell Oil siding. That is west of Booth Avenue where there is two-way traffic.

Q Are you sure of that?

A Yes sir.

Q And even at the Shell Oil, though, your track goes in the middle of the street for a part?

A No, it cuts across the street. It cuts right across the street.

Q But when your engines and cars come out of Shell Oil and go not in the direction of the yard but in the opposite direction, they go on Keating Street, your tracks, do they not?

A They got to go up Keating Street to get into the Keating Street yard.

Q They have to cross Keating Street to get into the Keating Street yard?

A Yes, they have to cross the north side of Keating Street.

Q And you have no tracks on that part of Keating Street itself?

A Well, like.... the Shell Oil -- the siding for the Shell Oil -- runs off the east lead, east of Booth Avenue right across the roadway.

Q And west of Shell Oil there is this double lane?

A That is right, west of Booth Avenue.

Q Is that where Dominion Tar would be or am I confused in my directions?

A. Alver

A No, the Dominion Tar is west of Booth. It cuts across the street the same as Shell Oil.

Q Can you tell me how in that situation, if your engine is heading east and the cars are coupled, -- did you say to the cab?

A That is correct.

Q How in that case are you able to back your cars into the Keating yard tracks by giving signals to the engineman?

A How you back the cars into the Keating Street yard?

Q Yes. You cut across Keating Street and have to back them in. How do you do that?

THE CHAIRMAN: May I follow this picture?

MR. LEWIS: Yes.

BY THE CHAIRMAN:

Q The Keating Street yard is north of Keating Street?

A Yes, on the northside of Keating Street.

Q And where are you starting this movement from?

MR. LEWIS: I am asking the witness that.

BY MR. LEWIS:

Q Suppose we start this movement from Carlaw Avenue.

THE CHAIRMAN: North of Keating Street or South?

BY MR. LEWIS: It would be south of Keating Street because they have to cross Keating Street to get into the yard, is that not right?

A Yes.

BY THE CHAIRMAN:

Q They cross from the Shell Oil?

A.Alver

A The Keating Street lead.

Q I would like to follow that and I would like to have the witness follow the particular movement he is talking about.

BY MR. LEWIS:

Q If I have the picture right in my mind, suppose we had some cars and we came along the track which is in the middle of -- a short distance on Keating Street itself -- the engine had some cars travelling west and then north -- starting at the most easterly of three street crossings that I had my mind -- I am afraid I do not know the names.

THE CHAIRMAN: The witness says the tracks are in the middle of Keating Street west of Booth Avenue.

BY MR. LEWIS:

Q Are there no tracks on Keating Street east of Booth Avenue?

A It is on the north side of Keating Street.

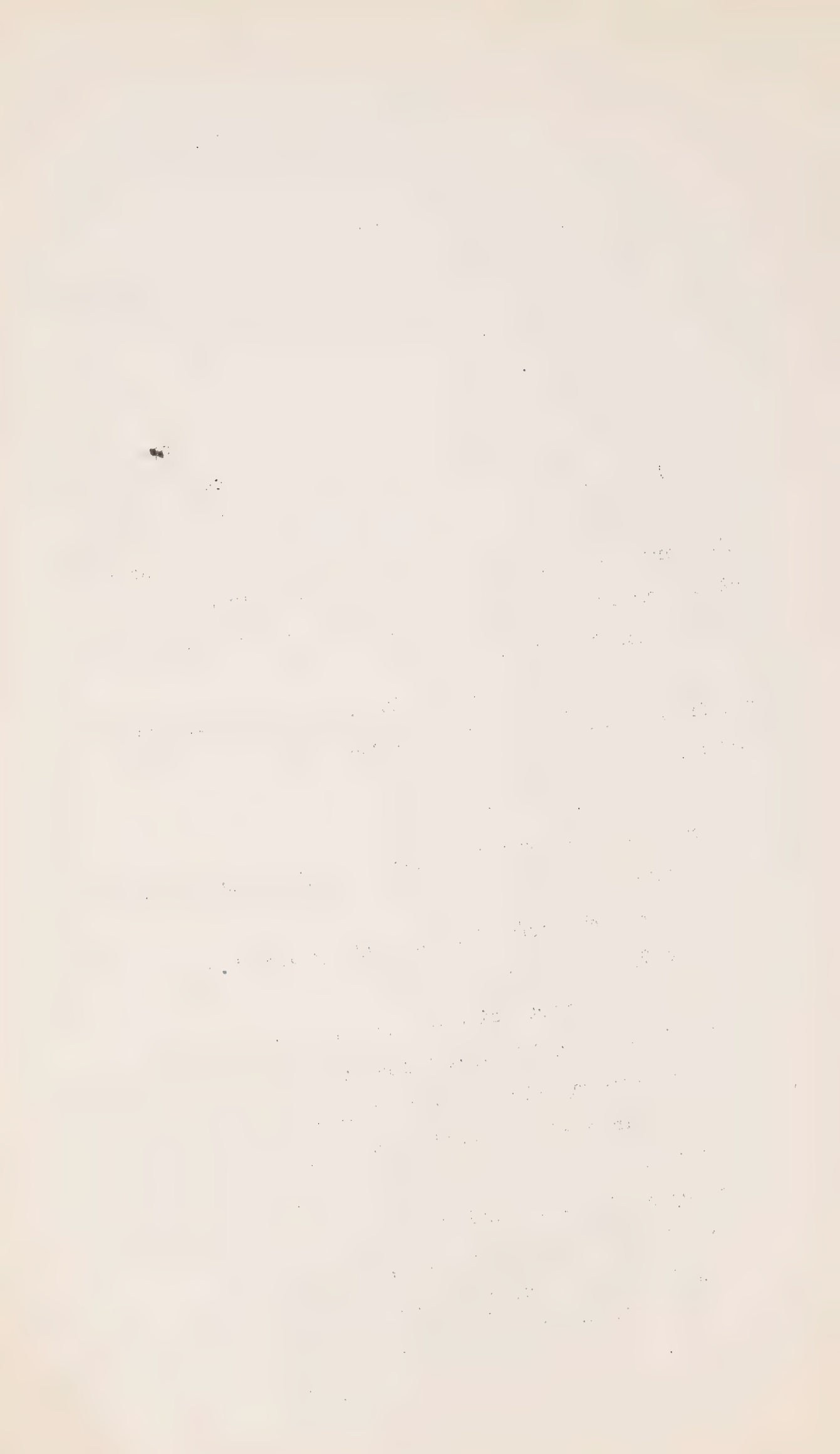
Q Pardon?

A It is on the north side of Keating Street.

That is the Keating Street lead and it runs from the Don roadway right down to this side of the Brewers Warehouse on Leslie Street and all your industries are on the south side of Keating Street and branch off the Keating Street lead and cut across the pavement or roadway.

Q Is Carlaw Avenue west of Booth Ave?

A The Shell Oil station is there. I do not know whether it is Carlaw or Booth. I am just



A.Alver

inclined to get them two streets mixed -- but it is at the Shell Oil service station there that you branch off to east and west traffic on Keating Street.

Q Let us assume for a moment that that is Booth Avenue.

A I have been calling it Carlaw.

Q That is Carlisle?

A No, Carlaw.

Q And west of Carlaw you have this track in the middle of Keating Street, is that right?

A Yes.

Q What I am suggesting to the witness, Mr.Chairman, is that suppose you had an engine and some cars which had to be backed into one of your tracks in the Keating Street yard. You would then -- correct me if I am wrong; I just want to give you the picture and then you can then answer -- you would have to travel for a short distance west on your Keating Street track, is that right?

A Right.

MR. SINCLAIR: Lead.

MR. LEWIS: All right, lead, if you like.

THE WITNESS: Yes.

BY MR. LEWIS:

Q And then you would have to travel north across the northern half of Keating Street?

A Correct.

Q And what would you call that track?



A. Alver

A That is the yard lead.

Q The yard lead?

A Right.

Q And then you would have to turn west into one or another of your Keating Street tracks?

A You go into either one of the ten tracks in the yard.

Q You go into any one of the ten tracks in the yard which are west of the yard lead, right?

A Yes.

Q Well, would you explain to the commission with your engine facing as it is -- let me see if I remember what you said --

THE CHAIRMAN: Facing east and the engineer would be on the south side.

THE WITNESS: That is right.

BY MR. LEWIS:

Q The engineer would be on the south side of the Keating Street track?

A After you finish switching the Shell Oil you protect your movement coming over Booth Avenue or Carlaw Avenue and you ride the point up to where the yard lead comes out on to the Keating Street lead and then you stop. The foreman or fieldman will come out with a flag and protect the traffic and your engine follower will come out and walk farther out so that he can see the man on the crossing going in the yard and being in contact with the engineer.

Q How much farther would he go out? Where would he

A. Alver

walk out?

A It depends on the amount of cars he has a hold of. You might have half a dozen or a dozen or sometimes two or three. The situation is different every time you switch an industry.

Q But assume for a minute that you have a dozen. You said you sometimes have a dozen. You would have to go out quite some distance. Where would he go, please tell me?

A Keating Street itself is a tangent track with the exception of a small curve on Carlaw Avenue.

Q He would have to go on Keating Street itself?

A Yes, sometimes if he had too many cars.

Q And Keating Street is a very busy traffic lane, isn't it?

A Yes, it is a busy street.

Q There is a lot of east-west traffic going there all the time?

A That is right. But, we have the same situation at Bathurst and Fleet Streets. There is more traffic there than at the other end of the pike and the yardmen have to go out there just the same.

Q And you think it is safer for this man to go out on to Keating Street in order to give signals to the engineman than it would be to have them passed through the fireman --

A Sure.

Q Just let me finish my question -- yes, the fireman, where he would not have to do that?

A. Alver

A They have to use the engineman in other places where they cannot use the fireman in such traffic.

Q I am sure they do but in this case would you say it would be safer to take this man out on a busy traffic lane rather than give the signal through the fireman where they would not have to do that?

A That man has safety fusees, stop signals and red flags. He goes out there and if the traffic does not stop anything is liable to happen.

Q And that is your answer to my question?

BY THE CHAIRMAN:

Q Let me see if I understand that. You say the man on the south side of the train goes out into Keating Street. That would be in the lane which goes --

A East.

Q The eastbound lane?

A Yes.

Q And what about the traffic, does it stop or keep on going?

A He is out there with a red flag and fusees.

Q And the traffic stops?

A Yes, or runs around him. You do not have to stop the traffic just for the purpose of that man being five feet out on the roadway. There is no sidewalk, you see.

Q There is no sidewalk on the south side of Keating?

A No.

A. Alver

Q But he stands --

A About five feet on the roadway because of the curb. He stands five feet from the curb.

Q The south curb?

A The north curb. The north curb of the eastbound part of Keating Street.

Q That puts him on the north side of the train.

A No, the south side.

MR. LEWIS: I think the witness means that the north side of the south half of Keating Street.

THE WITNESS: Yes, the eastward lane.

MR. SINCLAIR: It is a divided highway.

THE CHAIRMAN: Yes. I was thinking of the south curb.

BY THE CHAIRMAN:

Q Why couldn't he stand off the roadway altogether on the south curb of Keating Street?

A There is a small curb between the track and north curb of the eastward lane. It depends on how many cars the engine has a hold of whether he has to step out five feet or stand on the curb.

Q We are talking about a dozen cars.

A Pardon?

Q We are talking about 12 cars.

A He would have to step out on to the roadway.

Q Why couldn't he cross the roadway and be on the south side of the south curb of that eastbound road?

A.Alver

A He could if he wanted to but there they are saving steps. That is all they are doing, you know.

Q I am just talking about the geography. Why couldn't he stand on top of the cars.

A He could go out on the sidewalk on the south side. There is no sidewalk on the north side.

Q It is a boulevard, yes.

A Yes. If there was a sidewalk he could get on.

Q But why couldn't he get on top of the cars?

A They are mostly tank cars, sir.

THE CHAIRMAN: All right, Mr. Lewis.

BY MR. LEWIS:

Q As a matter of fact, Mr. Alver and Mr.Chairman, to follow that up -- my memory, Mr. Alver -- there are at least three crossings -- we have agreed on Carlaw Avenue and there are two crossings west of that when the turn is moved north of your Keating Street lead -- is that right, do you recall?

A Yes, there are small crossings going across this divider boulevard.

Q And do you not have to protect those crossings by flagging?

A That is correct. They are not utilized very much, though.

Q To obey the rules you have to protect them?

A That is right.

Q Is that right?

A Yes.

A. Alver

Q And your men protecting the crossing of the north half of Keating Street -- do you follow me?

-- I am referring to the northern half, the one closest to the three?

A Yes.

Q Must he stand east of your engine and the cars in order to be able to give that protection?

A Your lead off of Keating Street into that is west of Carlaw and Booth Avenues.

Q That is right.

A Yes, it is west.

Q And your southern part of Keating Street gives you the westbound traffic?

THE CHAIRMAN: Eastbound.

THE WITNESS: Eastbound.

BY MR. LEWIS:

Q I am sorry, I meant to say the northern part.

MR. SINCLAIR: You are worse than I am.

BY MR. LEWIS:

Q The northern half of Keating Street, Mr. Alver, is the westbound traffic, right?

A Yes.

Q And in order to protect either Carlaw Avenue or any of the other crossings, wouldn't your man have to stand on Keating Street -- the northern half of Keating Street -- east of your train, because he has to stop the traffic coming toward your track, is that right?

THE CHAIRMAN: East or west of the train?

A.Alver

MR.LEWIS: It would be east as he comes from south to north to the yard, Mr.Chairman.

THE CHAIRMAN: He stands at the crossing before the train gets to it?

MR. LEWIS: Yes, and also as it crosses it, I imagine, Mr.Alver, isn't that right?

THE WITNESS: The flagman gets out on Keating Street to protect the movement going over there and he stands west of the Keating Street yard. He doesn't stand on the east side, he stands on the west side of the track.

BY MR. LEWIS:

Q He stands on the west side of the track when the traffic is coming from the east?

A Coming west.

Q He stands on the west side of the track flagging?

A Yes.

Q And once your engine and the cars start crossing the northern half of Keating Street then his flag is out of sight of the cars coming?

A The cars are stopped and the crossing is blocked. They cannot get by; that is obvious.

Q But you do not have a flag on that side anymore?

A Not on the east side, no. The traffic is stopped before the movement comes over and then when the movement is fully into the crossing so that nobody can get by because it occupies the crossing he still continues right in the yard.

Q And all the time he stands on the right side of the west side?

A.Alver

A Until we get our train on the crossing blocking it,
that is right.

BY THE CHAIRMAN:

Q Then you said there were three crossings.
Do you go ahead and do the same at the three?

A Coming up to the yard lead we protect them as
well.

BY MR. LEWIS:

Q Mr.Alver, I put this to you. I would have
thought that if you wanted to stop traffic
coming from the east westerly that you would stand
east of the track in order to make sure that
that traffic stopped east of the track?

A We cannot lay down specific rules for where
a man is going to stand and flag these crossings.
Now, at Fleet and Bathurst Streets there is
traffic both east and west and there is 1,200
movements an hour both east and west. It is not
divided at all; there is a white line on the road.
Where are you going to stand? You have to be on
one side or the other and one side is not protected.

Q When you have both then you would stand in the middle?

A The movement has to go across the middle.

Q I suppose you would do that?

MR. SINCLAIR: Stand in the middle and jump.

MR. LEWIS: That is apparently what they are expected to do on Keating Street.

--- Recess

ANTON ALVER, recalled

EXAMINED BY MR. LEWIS:

Q One last question with regard to this Keating Street yard. Am I right in suggesting to you that at that point Keating Street is now a 40-mile speed zone?

A That is correct.

MR. SINCLAIR: For automobile traffic.

MR. LEWIS: Yes, for automobile traffic.

BY MR. LEWIS:

Q I want to turn your attention to the A. R. Clark Company, the tannery. You do switching there, do you not?

A That is correct.

Q Is my information correct that you push the cars into the tannery siding and the cars are coupled to the nose of the engine?

1. The first part of the paper is devoted to a general discussion of the problem.

2. The second part is devoted to a detailed analysis of the case of a single particle.

3. The third part is devoted to a detailed analysis of the case of a system of particles.

4. The fourth part is devoted to a detailed analysis of the case of a system of particles.

5.

6. The fifth part is devoted to a detailed analysis of the case of a system of particles.

7. The sixth part is devoted to a detailed analysis of the case of a system of particles.

8. The seventh part is devoted to a detailed analysis of the case of a system of particles.

9. The eighth part is devoted to a detailed analysis of the case of a system of particles.

10. The ninth part is devoted to a detailed analysis of the case of a system of particles.

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12. The eleventh part is devoted to a detailed analysis of the case of a system of particles.

13. The twelfth part is devoted to a detailed analysis of the case of a system of particles.

14. The thirteenth part is devoted to a detailed analysis of the case of a system of particles.

15. The fourteenth part is devoted to a detailed analysis of the case of a system of particles.

16. The fifteenth part is devoted to a detailed analysis of the case of a system of particles.

A Yes.

Q Is that right?

A That is correct.

Q And your movement would go eastward?

A Eastward and northward.

Q When you turn into --

A A left-hand turn.

Q -- the tannery siding?

A Yes.

Q And the spur, if it is called a spur, the track on which you would go eastward, before turning north that track is north of Keating Street; right?

A That is correct, runs off Keating Street lead.

Q Pardon?

A The A. R. Clark siding runs off the Keating Street lead.

Q That is north of Keating Street?

A Right.

Q So you would be moving east with the engine-man in this arrangement sitting on the south side?

A Correct.

Q Right?

A Yes.

Q Then you have going into the Clark siding a left-hand or northward turn?

A That is right.

Q Is my information correct that the siding curves northward, goes northeast of the A. R. Clark building, then when it passes the northeastern corner of that building turns westward again?

A That is right, a slight curve west.

Q And there is room on that track which has a turn westward and is north of the A. R. Clark building; there is room for one or two cars?

A It is a short siding there, yes.

Q And is my information also correct that you do not have a stop block at the end of that track, that there is just a tie there?

A That is all, that is right.

Q And would I be correct in suggesting to you that it would be necessary therefore for one of your ground crew to watch the end of that track carefully so that the car would not go over the tie; is that right?

A Well, they know from switching in there how many cars they have hold of and where those cars generally are spotted on that siding. That is why they don't go over the end of the track when they go in there.

Q There would have to be someone at the lead end of the movement to watch that?

A They don't necessarily have to be at the lead end to know where the end of the track is. They know how many cars the

siding holds and they know how many cars they have in the movement. When they spot those two cars in there they know they still have 15 or 20 feet left until they get to the end of the rail. It is a common practice during switching operations to put cars off the end of the rail but you just pull them back on again. It happens quite often.

Q It is not of any importance?

A There is no damage done in 90 per cent of the cases. It is just a matter of re-railing them, pulling them back up on the rails again with some blocking behind them.

Q You are suggesting that you don't want your yard crew necessarily to pay very close attention?

A We don't want them to put them over the end of the rail, but there are times when they get sloppy and that happens.

Q You would want them to pay attention to that?

A That is right.

Q On this left-hand curve northward, just how would you push those cars into the A. R. Clark siding and give signals only to the engineman?

A By positioning your man in the proper position.

Q What would be the proper position?

A The foreman would go in with the cars and

the field man would stay out on the left-hand corner, out ten or fifteen feet from the curve, relaying signals to your engine follower.

- Q Left-hand corner -- I am at a loss -- the curve is left-hand and he would have to stand --
- A Right-hand corner.
- Q He would have to stand east --
- A So that he could see the foreman and see the engine follower down there.
- Q I am instructed, Mr. Alver, that there is a fence right around the A.R. Clarke property, using the word "property" rather loosely because I do not know its boundaries. There is a fence right around the A.R. Clarke property, on the east side, on the south side and on the west side?
- A Yes. It can still be done on the right-hand side by proper positioning of the yardmen.
- Q I am trying to find out what that proper positioning is.
- A I have just told you that the yard foreman would go in with the two cars to spot them and then pull the pin on them after he spotted them. The fieldman would be out on the right-hand corner next to the fence in view of the foreman and in view of the engine follower.
- Q He would be outside the fence?
- A It can be done that way and it can be done a little easier giving it to the fireman on the left-hand side all around.
- Q Right. Furthermore, he would have to be outside the fence, I understood you to say?
- A No, inside the fence.

Q Inside the fence?

A As I recollect it.

Q The right-hand corner of that fence, you think that is far enough for him to see the foreman and to see the engineer as he comes around that curve?

A That is right.

Q Mr. Alver, have you watched it done just that way?

A I have seen it within the last six months. It was early last November when I seen it done.

Q And you remember it quite distinctly?

A Yes.

Q I am instructed that it is still done daily, that is, every time switching is done -- I don't know whether it is done daily --

A We go in there every day.

Q By giving signals through the fireman?

A I explained to you that it can be done easier with the fireman, giving signals on the left-hand side, but it can be done and should be done on the engineer's side.

Q Would you not also say that not only can it be done easier but it can be done with greater certainty about the signals being seen if it is done on the fireman's side?

A There is no greater certainty or safety about it. It would be easier for the yardmen to put themselves on the left-hand side than it would be to spread out. That is the attitude they

take when you are not around.

Q Cars are not spotted only in that little bit of siding north of A.R. Clarke, they are also spotted on the siding just east of A.R. Clarke?

A That is right, in the Canada Metal sidings.

Q They are spotted in there?

A That is right.

Q And all that spotting you say could be done more easily on the left-hand side but in your view it can also be done on the other side?

A That is correct.

Q Now, the various sidings at Scarborough come under your jurisdiction?

A Scarborough, yes, the Scarborough spur.

Q And you have recently studied the situation at the John Inglis plant in Scarborough?

A I have seen the Scarborough spur job switching out there in the last six months.

Q And is the John Inglis switching done on the engineer's side?

A John Inglis and the Volkswagen people.

Q Yes?

A They are adjoining the Linkbelt Company. There are three firms there together.

Q Yes?

A All of them have got the same entrance to their property.

Q And it is all a left-hand curve into that property?

A It is all a left-hand curve into that property.

Q And a pretty sharp curve, is it not?

A Well, not anymore than you usually would find in any industrial area where you have switching, but these areas like up there -- I forget the name of the avenue but they are all link wire fence and you can see right through the whole thing. There is no problem there at all to place cars.

Q There is no problem to place cars?

A Direct with the engineer.

Q By looking through this link wire fence?

A That is correct.

Q And you are suggesting that signals given through this wire fence are always entirely reliably seen by those receiving them on the other side of the fence?

A That is correct. There is no trouble looking through the link wire fence to see a man waving his arm or giving a stop signal.

Q No problem at all?

A No.

Q How big is this link wire fence? How big are the interstices?

A Two and a half inches square, diamond shape like.

Q And one man is stationed on one side of the fence and the other man is stationed on the other side of the fence?

A That is right.

Q And you are suggesting that giving signals that way through that wire fence presents no problem?

A No problem at all. There is many places we do it throughout the terminals.

Q Pardon?

A There is other places we do it throughout the terminals and we have no trouble with it.

Q Have you discussed it with the yardmen to find out whether they find it any trouble?

A No.

Q From their experience?

A If they had trouble they would come to me.

Q Perhaps they do not come to you, I suggest, because they do not do it ~~that~~ way, because they pass the signals through the fireman where they do not have to look through the fence?

A On the Scarborough spur they are trainmen. They belong to the Trenton Division and none of them has approached me to say it is unsafe or they could not do it or anything else, but when I am around there they are doing it that way.

Q You have been there once in the last six months?

A Yes sir.

Q How often were you around there before that?

A Oh, I get around there about every other month or two or three months.

Q You just said you have only been there once in the last six months?

A That is right, before Christmas.

Q And I am suggesting to you that perhaps the reason they have not come to you to complain is that they do not pass the signals to the

engineer but pass them through the fireman? Is that possible?

A They could because they know there is no officer around.

Q And if they do that they do not have to see each other through the fence? Isn't that right?

A I didn't get your question.

Q If they pass the signals through the fireman they do not have to try to see each other through the fence?

A That is right, but there is no difficulty in seeing signals through the fence, a link wire fence.

Q That is your opinion of that?

A That is right.

BY THE CHAIRMAN:

Q Does a man have to climb over the fence?

A No, he goes through the railway gate which is on a curve going in.

MR. LEWIS: That is all.

BY MR. SINCLAIR:

Q Yesterday, Mr. Alver, my friend, Mr. Lewis, was asking you about the Toronto Terminals and the capacity of the Lambton and West Toronto yards, I think it was. I have not got the transcript.

MR. LEWIS: That is right.

BY MR. SINCLAIR:

Q And you said that it had been built some time

ago when there were not as many cars being handled as there are today and the suggestion was that it was congested and your evidence went on to state that that resulted in holding trains out and delaying trains being yarded. I don't know if you used those exact words. Do you remember that testimony?

A Yes, I do.

Q Now, Mr. Alver, since the West Toronto and Lambton yards were built and even fairly recently have you or have you not rearranged your switching practices or built new trackage in the main switching yards which are shown across Exhibit 72?

A Yes. Within the last year we have built this Obico yard to take care of surplus freight from Hamilton and off the London Division. That relieves holding out and congestion in the West Toronto yard.

Q Have you done any rearrangement of tracks at North Toronto or Leaside in the last few years?

A At Dufferin Street we had a team track there to hold 35 cars and another siding that held 35 for storage of cars, so we closed the Dufferin team up because it was only holding an average of 3 to 4 cars on there on a 35-car siding, and we now yard grain trains from Port McNicoll on there and we can get an 85-car train in there.

Q Yes?

A At North Toronto we still have the same facilities; there has been no increase in trackage around there for yard service, on yard straight trains for the east, and grain trains from the north for the east. At Leaside we have added three 50 car track sidings in the last year which has helped out West Toronto yard considerably and cut down the detention and delay.

Q What about Obico; ; what is the capacity of that yard? How many cars can it take?

A The total capacity for storage would be around 650 cars; for working space it would be around 300.

Q Has the company any plans for further extensions of yard facilities in this area?

A Yes; we are working on plans right now, acquiring property, and we expect to get going sometime within a year.

Q What would be the effect of extending yard facilities in the area? What are you trying to do with this additional yard space?

A I just do not follow you.

Q What is your point, Mr. Alver, in extending your yard facilities in Toronto that you contemplate? What will that do? Would it speed up switching?

• The first part of the paper is devoted to the study of the properties of the function $f(x)$ defined by the equation $f(x) = \int_0^x f(t) dt$. It is shown that $f(x)$ is a constant function, and its value is determined by the initial condition $f(0) = 1$.

• The second part of the paper is devoted to the study of the properties of the function $g(x)$ defined by the equation $g(x) = \int_0^x g(t) dt$. It is shown that $g(x)$ is a constant function, and its value is determined by the initial condition $g(0) = 1$.

• The third part of the paper is devoted to the study of the properties of the function $h(x)$ defined by the equation $h(x) = \int_0^x h(t) dt$. It is shown that $h(x)$ is a constant function, and its value is determined by the initial condition $h(0) = 1$.

• The fourth part of the paper is devoted to the study of the properties of the function $k(x)$ defined by the equation $k(x) = \int_0^x k(t) dt$. It is shown that $k(x)$ is a constant function, and its value is determined by the initial condition $k(0) = 1$.

• The fifth part of the paper is devoted to the study of the properties of the function $l(x)$ defined by the equation $l(x) = \int_0^x l(t) dt$. It is shown that $l(x)$ is a constant function, and its value is determined by the initial condition $l(0) = 1$.

• The sixth part of the paper is devoted to the study of the properties of the function $m(x)$ defined by the equation $m(x) = \int_0^x m(t) dt$. It is shown that $m(x)$ is a constant function, and its value is determined by the initial condition $m(0) = 1$.

• The seventh part of the paper is devoted to the study of the properties of the function $n(x)$ defined by the equation $n(x) = \int_0^x n(t) dt$. It is shown that $n(x)$ is a constant function, and its value is determined by the initial condition $n(0) = 1$.

• The eighth part of the paper is devoted to the study of the properties of the function $o(x)$ defined by the equation $o(x) = \int_0^x o(t) dt$. It is shown that $o(x)$ is a constant function, and its value is determined by the initial condition $o(0) = 1$.

A That is to relieve congestion and to take care of the future when the seaway comes into Toronto.

Q What kind of crews will it affect, road crews or yard crews, or both?

A Road crews and yard crews.

Q How would it affect them, Mr. Alver?

A I beg your pardon?

Q How would it affect them?

A Of being relieved from duty that much sooner.

Q One other question my friend Mr. Lewis put to you had to do with sectionmen working in the yards, and I think my note is he said that there ^{were} sectionmen working day and night. Now, in Toronto Terminals, are section forces regularly employed, or are they not, in night service?

A No, not regular. No regular section forces in the afternoon or evening. Their regular hours are 8 to 12 and 1 to 4.

Q Would there ever be a section gang out in the terminal at night?

A Only in an emergency situation where you have a broken rail or a broken switch, and you call the sectionmen out to repair that.

Q What is the practice, Mr. Alver, when a section gang is working in a yard as to the section gang itself dealing with movements on tracks in proximity to where they are working?

A The section foreman appoints one of his men to keep a look-out for cars, engines, or trains moving on to the locality where they are working, and he informs the men to get clear or else he stops the movement if necessary.

Q Does he carry any kind of --

A He has a red flag in his pocket.

MR. SINCLAIR: That is all, Mr. Chairman.

BY MR. LEWIS:

Q One short question arising out of that; what you said about the sectionmen working there would not be quite true in the winter time, would it?

A It is an emergency when they are called out in the winter time, after a snow storm or anything like that.

Q You would have to call them out pretty often in the winter?

A Only wherever there is a snowfall and we figure we have to call them out to keep things going, and we call them out. It is an emergency the same as a broken rail or a broken switch.

THE CHAIRMAN: That is all, thank you, Mr. Alver.

JOHN NORMAN FRAINE, sworn,

EXAMINED BY MR. SINCLAIR:

Q Just before Mr. Fraine commences to give his evidence, Mr. Chairman, I was requested to get certain information concerning accidents that we heard about, particularly in relation to yards, first. I might as well put it in now. The first request appears in volume 8 at page 970. In this case the fireman was disciplined. This was at Vancouver. The question was asked by Mr. Lewis as to whether the engineer and head trainman were also disciplined, and I undertook to secure that information for him. I am informed that in relation to this matter which was discussed at page 970 the engineer was reduced to permanent yard engineer and required to re-write the "A" book; the head trainman was given 30 demerit marks and required to re-write the "B" book rule.

MR. LEWIS: Is that one of the cases in which my friend supplied me the file?

Mr. SINCLAIR: No; that was the case in which there was a violation of Rule 42 by the fireman. You asked me to determine whether the engineer and the head trainman, who were riding in the cab of this movement, were also disciplined for a violation of the rule and I undertook to get the information for you.

The discipline that the two members got, according to my information, is as I have informed the Commission.

In Volume 11, at pages 1403 and 1408 there was discussion as to discipline in Montreal in the year 1956 of yardmen and locomotive engineers. It is the same, leaving out only what we left out of the discipline of the fireman that was set out in Exhibit 64. This information has now been developed, showing all the discipline for yardmen and engineers in the year 1956 in Montreal terminals, on the same type of basis that is shown on Exhibit 64 and possibly this could be filed as Exhibit 64-A. I will supply copies; I just happen to have one in my hand. I will see that you get one, Mr. Lewis.

EXHIBIT NO. 64-A -- Details of
discipline
in Montreal
in the year
1956 of yard-
men and
locomotive
engineers.

BY MR. SINCLAIR:

Q Mr. Fraine, you are at present general manager of the Eastern Region of the Canadian Pacific Railway?

A That is correct.

Q Your first service with the company goes back to 1927, and between 1927 and 1938 while you were at school you worked for

the company in the summer recess?

A That is right.

Q Holding such jobs as freight shed ^{trucker,} ~~director,~~ signal fitter, chain man, rod man and labourer?

A That is right.

Q Then, while you were just finishing up your school work in 1938 you signed on as a trainman in the Kenora division and worked there during the grain rush that summer for a short period and then you went back to the University of Manitoba from which you graduated in 1939 as a civil engineer?

A That is right

Q After graduation you returned to the company's service on a full-time basis, working first as instrument man and when that work fell off going back as a trainman in 1939 on the Kenora division?

A That is right.

Q And, then, when work fell off there you transferred to the Schreiber division as a trainman and worked on the Schreiber division until late in 1939?

A I worked there part of 1940, during the winter of 1939-40.

Q And then you also worked as a transit man for the Portage Division, stationed at Winnipeg, and in 1941 you were in charge of the ballasting program on the

main line between Bergen cut-off and Rosser ~~then~~ when you were doing ballasting work between Portage la Prairie and MacDonald. Is that correct?

A Yes, both places.

Q During this work you were responsible for organizing and supervising the work of the train and engine crews assigned to this work?

A Yes.

Q Including supervising switching and unloading?

A That is right.

Q Then, in December, 1941 you were appointed roadmaster of Fort William terminals?

A That is right.

Q Again in the summer of 1942, when a large ballast job was in hand at Fort William you were placed in charge of this, given the responsibility of co-ordinating and supervising the road and the yard crews dealing with that ballasting job?

A It was not a ballasting job; it was construction of ~~a~~ yard.

Q It was building a yard?

A Yes, two road crews hauling and two yard crews doing the unloading and spreading and distribution of the material.

Q After that you continued on as roadmaster in Fort William terminal until February 1943, when you were appointed assistant

superintendent of the Lethbridge ~~division~~ at Lethbridge, Alberta?

A Yes.

Q Later that year you were transferred as assistant superintendent at the Sudbury division?

A That is correct.

Q With headquarters, I think, at North Bay. You stayed in that position until June, 1945, when you were transferred as assistant superintendent to the Schreiber division in Ontario, headquarters at Chapleau?

A Schreiber.

Q And in the late part of that year you again transferred as assistant superintendent of the Bruce Division and stationed at Toronto?

A That is right.

Q And part of your responsibilities there had to do with the supervision of passenger movements in and out of Toronto?

A For about six months, yes.

Q Then in 1946 for a period of eight months you were placed in charge of the bank widening and road ballasting at the north end of the MacTier subdivision in Ontario?

A That is right.

Q And you supervised and co-ordinated that work for those months?

A That is right.

Q Involving the switching and hauling of material and the unloading of them?

A That is correct.

Q At the completion of that you went back to your work as assistant superintendent at the Bruce division until early in 1947 when you were appointed superintendent of the Laurentian Division which is Montreal and north?

A North, west and east.

Q North, west and east ^{it} Montreal?

A Yes.

Q Well, in 1947 you were again promoted to be general manager of the Quebec Central Railways?

A That is right.

Q You held that position until ~~March~~ of 1950 when you were promoted to the position of assistant to the system vice-president of operations and maintenance stationed at Montreal?

A That is right.

MR. LEWIS: Assistant to the assistant vice-president or assistant to the vice-president?

MR. SINCLAIR: Assistant to the system vice-president; I am sorry.

MR. LEWIS: Thank you.

BY MR. SINCLAIR:

Q You occupied that position for about three years and then in October of 1953 you were promoted to general superintendent of the Alberta district?

A Yes sir.

Q You held that position for two years and you were again promoted to general manager of the Eastern Region which is the position you now hold?

A That is right.

Q Now, as the Commission knows, geographically the Canadian Pacific operates with a main line from Saint John to Vancouver and also services Nova Scotia through the D.A.R. and Vancouver with the E.&N.I. I asked Mr. Fraine to develop certain basic statistics of the physical aspects of the Canadian Pacific which he has done. Have you got a copy of that, Mr. Fraine?

A Yes.

Q It is entitled, "Canadian Pacific Railway -- Statistics as at December 31, 1956."

THE CHAIRMAN: Exhibit 83.

EXHIBIT NO. 83 -- Canadian Pacific
Railway --
Statistics as at
December 31, 1956

BY MR. SINCLAIR:

Q Looking at Exhibit 83, Mr. Fraine, just
comment on that, first as to the trackage?

A There are 17,066 miles of road and 5,375
miles of siding, yard and industrial trackage.
That 17,066 miles does not include double
track. That is first main track.

Q That is 17,066 miles of first main track.
That is what "miles of road" means?

A Yes.

Q That is a standard railroad designation?

A Yes.

Q And of that 17,000 odd miles how much is
under your jurisdiction?

A Something just under 6,000 miles.

Q Miles of road?

A Yes.

BY THE CHAIRMAN:

Q We do not know what the Eastern Region
is?

A It extends from Current River, which is
just east of Port Arthur in Ontario,
through to Saint John, New Brunswick, and
it also embraces the trackage from Windsor
to Montreal and the connection with the
Canadian National to Hamilton and the

associated trackage in Quebec.

Q Your headquarters are where?

A Headquarters Toronto.

BY MR. SINCLAIR:

Q Have you any idea of what proportion of the miles of siding, yard and industrial trackage you would have? Would it be proportionately about the same, or greater or less?

A No, the proportions would be reversed. The greater proportion of that yard, siding and industrial trackage is in eastern Canada.

Q Under your jurisdiction?

A Yes.

Q Now, the next heading is "Inventory of Steam Locomotives". This speaks pretty much for itself, Mr. Fraine, I think. Let us look at "Yard" first. The last column shows the total number of yard steam locomotives.

A That is right, 117.

Q That is the number that the Canadian Pacific had at the end of 1956?

A That is correct.

Q And in the column called "Hand-Fired" I noticed that there are --

A 75.

Q Yes. And the balance of 42 are oil-fired?

A Yes sir.

Q Now, looking at the heading "Road" there

as shown in the last column, 1088 steam locomotives some of which are hand-fired, stoker-fired and oil-fired. I observe that 376 are hand-fired, 540 are stoker-fired and 172 are oil-fired, is that correct?

A That is right. They may not all be operating at the moment.

Q No. What do you mean by that is that some of these engines may be tied up?

A That is right, some of them are tied up, serviceable.

Q These are the serviceable engines that you still have in the Canadian Pacific inventory?

A That is right.

Q And since the 1st of January, I suppose the company has received some diesels?

A Yes, we have taken delivery of some and as they are delivered, why the steam engines are retired.

Q Now, looking at the inventory of diesel-electric locomotives, I see that you have divided these into three types. The car body type is first and you have divided that into three general classifications. Will you just speak to that, please, Mr. Fraine?

A Well, the "A" and "B" units under "Passenger only" total 58 of which 56 are assigned to

the Trans-Continental passenger pool. The other two are operating on a fast train between Edmonton and Calgary.

Q Fifty-six of the 58 car body type diesels are in the Trans-Continental passenger pool and the other two are operating between Calgary and Edmonton, is that right?

A Yes.

Q And what about the passenger or freight car body type?

A Some of those are operating in Western Canada and some in Eastern Canada. There are 80 of them all told. They are equipped for use either in freight or in passenger service.

MR. LEWIS: Would the witness please speak a little louder?

THE WITNESS: I will try to, sir, yes.

BY MR. SINCLAIR:

Q The next heading is "Freight Only".

A Yes, there are 62 units that are freight only of the car body type.

Q And the total of car body types on the Canadian Pacific as at the end of last year was 200?

A That is right.

BY THE CHAIRMAN:

Q What is the difference between the three classes? Is the car body type passenger only of different construction from the next two?

A Slightly, sir. The distinction in the passenger only, those "A" and "B" units, the 58 are geared

for 89 miles an hour operation. Other than that they are not very much different from the passenger or freight units in the next listing, but most of those units in the passenger or freight "A" and "B" units are geared for 75 miles an hour operation. Some of them are for 65 miles an hour operation.

BY HON. MR. McLAURIN:

Q What is the significance of the designation "A" and "B"?

A "A" is a unit with an operating cab at the forward end and the "B" unit has no operating cab.

Q It has to be attached to something with a cab?

A "B" units run in conjunction with an "A" unit or a road switcher. It could be coupled to either.

Q What about these multiple units? They are probably two "B" units?

A Yes, there could be or there could be two "A's" with a "B" between them.

BY THE CHAIRMAN:

Q What about the third class, "Freight Only"?

A Those are 65 mile an hour units. Other than that they are essentially the same as the others.

BY MR. SINCLAIR:

Q Yes?

A Excuse me, sir. The passenger or freight units in the second grouping, some of them would be equipped with steam generators and some of them~~would~~ be piped for steam train line and air signal line so that they could be used in a consist but the ones that do not have steam generators could still be used in consist with other units and be capable of passing the steam or the connecting signal through them. The "Freight Only" are not equipped with steam generators nor are they piped to enable them to be operated in a passenger train consist.

Q And apart from that the construction is much the same?

A Yes. If you were to look at them from the outside you would have some difficulty distinguishing any difference.

THE CHAIRMAN: All right.

MR. LEWIS: What exhibit number would they be like?

MR. SINCLAIR: My friend asked me what exhibit number they would be like. I intend to file some photographs of these various ones in due course.

BY THE CHAIRMAN:

Q Well, what about the road switcher type?

BY MR. SINCLAIR:

Q Yes?

A The road switcher type, you will notice, are broken into two groups, freight or passenger and freight only and the same general distinction applies; that if they are suitable for operation in passenger service they have either steam generators or they are piped so that they can be operated in a passenger consist. Most of these units are 75 miles an hour units although some are 65, and the "Freight Only" of course have no piping and ~~no~~ steam generators.

Q They have no piping or steam generators?

A No, no steam pipe or ~~connecting~~ ^{communicating} signals.

Q And the total number of road switcher types the Canadian Pacific had operating at the end of last year was 270?

A That is right.

Q Now, concerning the "yard switchers" there is the comment "includes two supplementary units". Are those the boosters we have heard about here the "B-100's" and "B-101's" at Cote St. Luc?

A Yes, they are the units that were attached to the hump engines.

Q And there is a total of 200 of these yard switchers?

A Yes sir.

BY THE CHAIRMAN:

Q Now, what is the difference between a road switcher type and a yard switcher type?

A Well I have a photo of that, sir, but generally

speaking the yard switcher is a lesser horsepower unit. It has the cab at the extreme end. On the road switcher the cab is located part way along the locomotive, about -- oh, I should judge that you have perhaps three-fifths of the locomotive on one side of the cab and one-fifth on the other side of the cab, the cab being the middle one-fifth.

Q You do not mean on one side or the other but rather in front and back?

A Yes, in front or behind it.

Q I believe you mentioned the difference in horsepower between the road switcher type and the yard switcher type?

A Yes sir. The yard switcher, the diesel-electric, -- we have 660 horsepower yard switchers. We have some 800 horsepower and we have some 1,000 horsepower and I believe there are a few -- although very few -- that are 1100 horsepower. The road switchers are 1,500 horsepower, 1,600 horsepower, 1,750 horsepower and we have about 20 or 21 that are 2,400 horsepower.

Q And what about the car body type? What is the horsepower?

A They vary too, to the same degree. There are 1500's, some are 1600's I believe, some are 1,750 and we have three units that are 2,200, I believe it is, or 2,250 horsepower.

THE CHAIRMAN: Are you finished with
this exhibit, Mr. Sinclair?

MR. SINCLAIR: Yes.

THE CHAIRMAN: We will adjourn then.

--- The Commission adjourned at 12.30 p.m.
until 2.00 p.m.

- - - - -

Wednesday,
March 27, 1957

AFTERNOON SESSION

--- The Commission resumed at 2.00 p.m.

J. N. FRAINE, recalled,

MR. SINCLAIR: Mr. Chairman and members of the Commission, I should have mentioned before calling Mr. Fraine that, as you suggested earlier in our proceedings we might indicate major divisions as we went along. With Mr. Alver's testimony, the main portion of our yard case is in. Mr. Fraine is the commencement of what I term our road case.

Of course as I said earlier, you cannot keep these in absolute watertight compartments; there may be certain evidence as to yard given by these road witnesses.

After I have dealt with the road matters -- and this may be of assistance to my friend -- I intend to deal with the mechanical aspect, and follow that with general, policy and implementation witnesses.

EXAMINED BY MR. SINCLAIR:

Q. Mr. Fraine, Exhibit 83 sets out the inventory of diesel electric locomotives in 1956, and the inventory of serviceable steam power, although, as you said, some additional amounts

would have been tied up as the company received additional diesel units. In the year 1956 what proportion of the total transportation work of the Canadian Pacific was performed by diesel power in the various classes of service, taking freight, passenger and yard?

- A. In freight service transportation work performed by diesel power was about 48 per cent; in passenger service about 71 per cent; and in yard service, about 68 per cent.
- Q. What are the plans of the Canadian Pacific as to additional diesel units in 1957, Mr. Fraine?
- A. There are on order 113 road switchers and 48 yard switchers; the yard switchers include seven which will be under 90,000 pounds weight on drivers.
- Q. And have any of these 1957 diesel orders been delivered, to your knowledge?
- A. Yes, we have received delivery of some road switchers -- I can't tell you the exact number -- and we have taken delivery of one of the under 90,000 pounds units, and I believe another one is about ready for delivery now.

- Q. Has the company made any analysis of when it expects to completely dieselize the Canadian Pacific motive power?
- A. Yes, the Canadian Pacific on present plans will be dieselized by 1961.
- Q. Does that mean that all steam engines would be off the railway at that time, or what does it mean?
- A. There would be no steam engines.
- Q. Would they have any stand-by steam at all?
- A. I would think perhaps for a year or two they might retain a few steam locomotives, just as a matter of protection against sudden fluctuation in traffic.
- Q. In your evidence, Mr. Fraine, speaking about 1957 orders, you referred to road switchers and yard diesels; you did not mention any A or B units. Has there or has there not been any company policy decision with regard to the type of motive power as compared to A and B and road switchers, for the future?
- A. The road power will all be the road switcher type from now on. There is no intention of purchasing more A and B units.
- Q. Mr. Fraine, what governs the movement of trains over the road?
- A. Trains are operated over the road by time table, train order, signal indication.

Q. Are trains divided into classes?

A. Yes, they are: Trains are first, second, third and fourth class, and extra trains. Broadly speaking, a first-class train is a passenger train; a second-class train is a symbol freight train; the third and fourth-class trains, and extra trains, are usually freight trains, although there are such things as work extras and passenger extras which operate on train orders rather than by a time table schedule.

Q. Take freight trains, normally on a movement over a division would a freight train be able to hold the main line over the division?

A. If I understand your question correctly, a freight train could under a number of circumstances hold the main track.

Q. But would a normal operation over the entire subdivision allow a freight train to hold the main line against all other trains?

A. No; normally if there are passenger trains due, very probably the freight train would be put in the siding to clear the passenger trains. There are exceptions to that, of course.

Q. On the average, over a subdivision, in normal operations, how many times would the freight train stop to clear passenger

trains or other trains superior to it?

A. Well, the minimum stopping that a freight train could do, taking a symbol freight train on a double track subdivision, if no passenger trains are operating at the time the symbol freight train is operating, it would probably stop only once to perform standing train inspection; and we could go all the way down to a way freight, which might stop at every siding and do some switching. But a freight train, exclusive of a way freight, might stop anywhere from five to six times -- I suppose you might say an average would be from three to five times.

Q. On a subdivision?

A. Yes.

Q. Generally, how many miles is a subdivision on the Canadian Pacific?

A. They vary in length, but about 125 miles is a fair average. There are some of 175 miles and some of 100 miles, but 125 is a fair figure.

Q. On the Canadian Pacific, Mr. Frairie, are there any operations conducted by fixed signal indication alone?

A. Yes. We have two types of operation by fixed signal indication. On double track,

such as between Montreal and Smiths Falls, we operate by signal indication, where there are only following movements. We have some of what is termed centralized traffic control, where movements in opposing directions are made with signal indication governing. At the moment most of our operations are confined --

Q. That is most of your centralized traffic control?

A. Yes, our C.T.C. is between two adjoining stations. However, this year we are putting in about 38 miles of centralized traffic control between Glen Tay and Wilkinson, on the Belleville subdivision.

Q. In Ontario?

A. That is right.

Q. What determines when you go to centralized traffic control, Mr. Fraine?

A. We go to centralized traffic control when we have sufficient volume to warrant the expenditure.

Q. Is it a density analysis?

A. It is density, yes.

MR. SINCLAIR: Mr. Chairman, before asking Mr. Fraine to deal further with train movements, and how these trains go over the road, may I say I asked him if he could let us have a



copy of a time table on a subdivision. I have in my hand time table 118, dated September 30, 1956, covering the Nipigon subdivision.

THE CHAIRMAN: Exhibit 84.

EXHIBIT 84: Time table 118 -
Nipigon Subdivision.

MR. SINCLAIR: Mr. Chairman, I might explain that this is a time table, and it is sometimes called a time card and sometimes called a time bill. All the expressions, time card, time bill and time table mean the same thing.

BY MR. SINCLAIR:

Q. Now Mr. Frairie, will you look at Exhibit 84?

THE CHAIRMAN: To shorten this, Mr. Sinclair you can tell us about it. But, follow whichever course is most convenient.

MR. SINCLAIR: With respect, sir, I was going to spend a little time on this, because I think through Mr. Frairie I can have the Commission hear his views as to the movement of trains on this subdivision, and that will assist the other road witnesses in giving their evidence.

THE CHAIRMAN: Very well.

MR. SINCLAIR: If I take a little too much time, I would ask the Commission to bear with me. I will be as short as I possibly can.

BY MR. SINCLAIR:

Q. Looking at Exhibit 84, Mr. Frairie, this covers the territory from Schreiber to Fort William, or Fort William to Schreiber, depending on the direction. Will you give the Commission your comments and indicate what would occur on various trains moving across the Nipigon subdivision?

A. Perhaps I should start by saying that the central column contains the names of stations, which is more or less obvious; immediately to the left of the stations it will be noted that the subdivision from Current River as far as Schreiber is protected by automatic block signal system, and that there is indicated the portion on the subdivision between Selim and Schreiber --

BY THE CHAIRMAN:

Q. I do not see Current River.

A. Current River is the second heavy line from the bottom.

MR. SINCLAIR: It is the third station from the bottom: Fort William, Port Arthur, Current River.

BY THE CHAIRMAN:

Q. Yes. What did you say about that again?

A. As you look to the left of the station names you will see a bracket which indicates that

the subdivision from Current River to Schreiber is protected by an automatic block signal system.

Q. Do you mean the sign "V"?

A. No, just to the left of the "V", you will see the line there.

Q. Between "V" and "double track"?

A. No, I am up in the centre of the column, sir.

MR. SINCLAIR: To the left. The station names start at the top, and going down to Current River there is a bracket...

THE CHAIRMAN: Yes, I see the words "automatic block signal system".

BY THE CHAIRMAN:

Q. And what does that mean?

A. That portion of the track is protected by an automatic block signal system between Current River and Schreiber.

Q. Are you going to tell us about the automatic part of it, or is that somebody else's part?

A. The automatic part of it, sir, as basically as I can put it, is that the signals are actuated by the wheels of a train shorting between two rails. A current passes through each rail, and when a train enters into a block the wheels and the axle short the two rails, and that has the effect of automatically putting the signal to "Stop" behind the train,

and the signal ahead of it in the opposing direction to 'Stop'.

Q. I am not sure that I understand you. What do you mean by saying when a train enters into a block?

A. Well, sir, if you start at the east end of Current River, that would be an absolute signal. That is shown in Exhibit 27 at page 132.

Q. What do you mean by "absolute signal"?

A. That signal when it is displayed at "Stop" in that manner cannot be passed unless the crew of the train have an understanding from the train despatcher that there is no conflicting movement; otherwise, the man stays there - he can't pass it.

Q. Who puts it in the "Stop" position?

A. The operation of the preceding train could put it in a "Stop" position.

BY MR. SINCLAIR:

Q. Automatically?

A. Yes, automatically. It shunts through the track circuit; or an opposing train having passed the west switch at Navilus could put it to "Stop".

BY THE CHAIRMAN:

Q. In other words, anything in front of his train that is moving from Current River to Schreiber, would be within the block, is that it?

- A. That is right sir.
- Q. Does this time table run east and west?
- A. Yes sir. You will notice at the top, westward trains, inferior direction, are on the left-hand side, and eastward trains superior direction.
- Q. When we are going up from Current River to Schreiber we are going ...?
- A. Going east, and are on the right-hand side of the page.

BY MR. SINCLAIR:

- Q. About what distance would there be between each block?
- A. It is governed by braking distance, but on an average it would be 2-1/2 miles.
- Q. So, for every 2-1/2 miles between Current River and Schreiber would be a signal which would make a block? Two signals, 2-1/2 miles apart, would make a block, would that be correct?
- A. Roughly speaking. Perhaps I could clarify that a little bit. At each siding, at the leaving end, there is an absolute type signal, such as is shown on page 132; at the entrance end of each siding there is a signal similar in design at least to figure 501-B on page 133. Each of those signals can display a different aspect;

they can display "Stop", they can display the caution aspect, or the proceed aspect by a difference in the colour of the lights.

Q. I notice at pages 132 and 133 there are two types of signal?

A. One is called a colour light and the other is called a semaphore type.

Q. Semaphore being the one with the arm?

A. Yes.

Q. And the light system being the one with the search light type?

A. That is right. Then there is the small one which is shown on page 132.

Q. That is figure 2?

A. Figure 2; it is a dwarf signal which is used in connection with a train leaving the siding.

Q. I notice the semaphore on page 132 has a square end, and the figure on 133 has a pointed end?

A. That is right.

Q. What does that mean?

A. One is a permissive signal and the other is absolute.

Q. Which is which?

A. The square end is absolute and the pointed end is permissive.

Q. The permissive one in the "Stop" position means what?

A. It means the train approaching it must stop clear of it before reaching it and within 100 yards of it, and may then proceed at restricted speed.

Q. Until it meets ...?

A. Until it reaches the next signal displaying a less restrictive indication.

BY THE CHAIRMAN:

Q. May I ask, if a train leaves Current River and gets to this signal which you say is just at the east limits, that is an absolute signal and it must stop there?

A. If the signal is red, yes sir.

Q. What do you mean by an absolute signal?

A. An absolute signal is one you can't pass.

Q. Yes I know, but what does it look like?

A. The one at Current River looks like figure 3.

BY MR. SINCLAIR:

Q. On page 132?

A. On page 132.

Q. What colour light does it show?

A. A red light, and it has an "A" on the mast.

BY THE CHAIRMAN:

Q. You say the train must stop?

A. Yes sir.

Q. That signal will have been put in that position by a train within the block to the east of the train that is stopped, or

by some operator in the station?

- A. No, the operator in the station does not effect it. A preceding train which had not passed the intermediate signal between Current River and Navilus would hold that signal to "Stop".

BY MR. SINCLAIR:

- Q. It would hold the signal at Current River at absolute stop?

- A. Yes. A train westward out of Navilus would hold that signal at "Stop". A broken rail could hold it at stop, or some defect in the signal apparatus would cause it to go to "Stop".

BY THE CHAIRMAN:

- Q. If a train going west out of Current River attempted to pass that absolute signal without stopping, what would happen?

- A. Physically, he could pass it.

- Q. Without that, the brake would come on and stop the train?

- A. No, we do not have that in conjunction with this signal system, sir.

- Q. That is not part of the automatic block signal system?

- A. No sir.

- Q. I thought from what you said earlier that that was included in the automatic block

signal system?

- A. No. There are several kinds; there is the automatic train control or automatic train stop, which is an appliance that can be coupled to the signal system and worked in conjunction with other apparatus on the locomotive, but we do not have that.

Q. Then the automatic block signal system means what it says, it just operates a signal?

A. A signal operating system.

Q. It is only a system of signals?

A. That is right, sir.

BY MR. SINCLAIR:

Q Mr. Fraine, just to make sure, on the Canadian Pacific is there any automatic train stop or automatic train control ~~territory?~~ *territory?*

A No sir.

Q Would it be correct to say then that starting in order and starting with the simplest system there would be timetable and train order, then the next would be automatic block, then centralized traffic control, then automatic train control and on either the centralized traffic control or automatic train control you could superimpose automatic train stop?

A Yes.

Q And on the Canadian Pacific there is not automatic train control or automatic train stop?

A No sir.

Q And short distances of centralized traffic control?

A They are controlled under those circumstances -- for instance, the portion of the Nipigon subdivision between Selim and Schreiber is controlled from a panel in the dispatching office and the signals in this territory are controlled by the direction of trains and they can also be controlled and are controlled by the despatcher?

Q And that is centralized traffic control?

A That is right, if he has a train at Schreiber and another train coming up the hill (there is quite a grade from Selim to Schreiber) and he wants to get that train in he can hold the train at Schreiber with a hold signal and give the train from Selim in the opposite direction the green signal and bring him in.

Q I notice from Fort William to Current River it shows double track. Is all the other track between Current River and Schreiber single track?

A Yes sir.

Q But on this subdivision there is also double track?

A Yes sir.

MR. SINCLAIR: I should say, Mr. Chairman, we chose this subdivision because it has all the varying types in it. It has centralized traffic control, automatic block signal on the double track which is not signalled or is signalled?

THE WITNESS: Well, there is station protection signal Fort William.

THE CHAIRMAN: Would you tell me again what this centralized traffic control is?

MR. SINCLAIR: Between Schreiber and Selim on the top --

THE CHAIRMAN: And how do you say that operates?

MR. SINCLAIR: That operates, the witness has said, by a train automatically throwing a signal or by the despatcher at Schreiber throwing the signal remotely through electrical impulses.

THE CHAIRMAN: You mean by the train throwing the signal --

MR. SINCLAIR: By being in a block, sir, it will send the next block to trains conflicting to red and will also affect the signal farther along to caution, yellow.

THE CHAIRMAN: Well, I am not picking this up very well. What is the difference between the automatic block signal system and centralized traffic control?

MR. SINCLAIR: Well, the automatic block signal system, sir, is not controlled remotely by the despatcher.

THE CHAIRMAN: Is that the only difference?

MR. SINCLAIR: That is right, sir.

THE CHAIRMAN: All right, that is clear.

BY MR. SINCLAIR:

Q All right, Mr. Fraine, I notice, for instance, that there are moving to the left of the stations boxes all the way down which show telegraph and telephone offices and there is "D" and "N". I take it that means day and night, does it?

A That is right.

Q And any that have "D" and "N", that means that around the clock there is an operator on duty, is that right?

A It does not necessarily mean around the clock; it could be two shifts, but usually it is three.

Q And where there is only a "D" that means --

A Only a day operator.

Q Then, to complete that, next to that column is the miles from Schreiber?

A That is right.

Q Westbound starting at Schreiber with zero Selim is 8.9 et cetera until we come to Fort William which says 132.9 so this subdivision consists of 132.9 miles?

A That is correct.

Q Now, before we get into the trains, to the right of the station names within the same block as the station names there are letters KVZ, VWYZ and W opposite Schreiber, Nipigon and Hurkett.

A If you look at the line with the word "Schreiber" the K indicates comparison clock bulletin station, registry station. The "V" indicates a station ~~direction~~ ^{protection} signal in the eastward direction and the "Z" indicates yard limits.

Now, the "V" again as to Rossport

any westward train there is a station protection signal and at each side of station Nipigon which means a/protection signal and there is a "W" which is water and "Y" is where there is a Y track or ~~station~~ to turn cars or engines. "Z" again is yard limits. Hurkett is a water station. Current River has an "X" which indicates a cross-over on the double track getting from one track to another. Port Arthur has a station protection signal on each side.

Q That is a "V"?

A Yes, "R" again is registry or bulletin station. The "X" is a cross-over and Fort William that is a "K" which is a comparison station and has a station protection signal and yard limit.

Those symbols are in Exhibit 27, page 14. All of the symbols which appear in the timetable are shown there.

Q Immediately to the right of those on Exhibit 4 that you have just been speaking of are the telegraph call letters for each of these stations, is that correct?

A Yes sir.

Q And is there a telegraph wire that the crews can hook up to anywhere they stop over this subdivision if it is necessary?

A The despatching on that subdivision is

1. The first part of the paper
is devoted to a general
discussion of the problem.

2. In the second part, we
consider the case of a
finite number of particles.
The results are
summarized in the
third part.
4. The fourth part
contains the
conclusions.
5. The fifth part
contains the
acknowledgments.
6. The sixth part
contains the
references.
7. The seventh part
contains the
appendix.
8. The eighth part
contains the
index.

carried out normally on a train despatcher's telephone circuit. The telegraph calls are for use with the Morse on the wires and that, of course, is useless to train crews but the telephone, they have a phone in each caboose and each passenger train has one in the baggage car that they can hook on to the line wires that carry the phone line and talk to the despatcher. There is also a phone at every absolute signal.

Q There is also a phone at each absolute signal by which the train crew can get in touch with the despatcher?

A Yes.

Q And between signals he can get in touch from the caboose and call the despatcher on the telephone?

A Yes.

BY THE CHAIRMAN:

Q Is there an absolute signal every two and a half miles?

A No, the absolute signals are at the leaving end of the sidings, at the departure end. If you were going east at the east end of each siding on the right-hand side of the track there is an absolute signal.

Q It is the block that is every two and a half miles?

A Yes sir, there are permissive type signals

located between the sidings and the length of track between the sidings governs whether there will be one intermediate signal or two intermediate signals between sidings.

Q And the sidings occur --

A Well, they are a little hodge-podge on this subdivision. Earlier they were anywhere four, five, six miles. The present practice is to extend them so that the sidings are eight, nine and ten miles apart but you can see the mileage between the sidings on this exhibit.

BY MR. SINCLAIR:

Q Exhibit 84?

A If you look at the top, Schreiber and Selim there is a figure 8.9 ^{between} ~~after~~ the two names. That is the mileage between the sidings.

Q Oh, the figure immediately to the left in the exhibit of the station name, the second column over from the station names?

A No sir, it is between the station names. You read Schreiber, 8.9, Selim. That is the mileage between the points and so on down.

BY HON. MR. MARTINEAU:

Q Can you tell me if there is an absolute signal at the end of each block?

A No sir, at the end of each siding.

Q Then, when it shows red at the end of the

block must the engineer stop and then start again slowly or must he stop until it turns green?

A Perhaps I can do this best, sir, by making an example. If you would look at Pays Plat which is the fourth name down an eastward train at Pays Plat would encounter an absolute signal at the east end of the siding at Pays Plat, the passing siding right at the clearance end, the fouling point. There is a signal which is an absolute signal. If that signal displays red he cannot pass except if he calls the despatcher and the despatcher assures him he can pass it, there is no conflicting movement.

Now, let us assume that signal has been green, that he can pass it and between Pays Plat and Rossport is eight miles and there would be in between there two immediate signals. If the one at Pays Plat was green he would probably find the first intermediate green ^{and} ~~but~~ would probably find the second intermediate green.

Q But if he didn't?

A If he does not find the intermediate green, if he finds that red stop, then he stops before he gets to the signal and with his engine within a 100 yards of the signal. He can then start and proceed but at restricted

speed.

Q And if there is a train coming in the opposite direction?

A He would have the same circumstance coming out of RosSPORT, he would get an absolute but you couldn't get a train out of Pays Plat east and out of RosSPORT west because immediately one of them goes over the switch the first one over the switch sets the signal at the other end red.

Now, if the one at that encountered the red signal called the despatcher he would not authorize them to move because he would tell them there was a conflicting train movement so they must be authorized to pass it. That is why it is called an automatic signal. It is so that you cannot get those movements unless someone deliberately runs a red signal.

BY MR. SINCLAIR:

Q But let us take a place, Mr. Fraine, where there are four block signals between two stations and a train is going east and a train is going west on the single track, could that happen four stations apart, say, 30 miles apart or 25 miles apart?

A Oh yes.

Q Then, what would the signals show as they came closer together?

A If you started, for instance, a train west out of Schreiber and the train east out of

Nipigon and there were no other trains on that piece of track except those two trains they would probably meet somewhere in the vicinity of Gravel or Gurney.

Q. As they are getting closer to there, first taking the eastbound train which is superior tell us what it would encounter?

A Well, it would encounter green signals and if the meet were at Gurney as he approached ~~westward~~^{eastward} at Gurney let us assume that the ^{yet} westward train has not/reached Gravel, Gravel is the station previous, immediately east of Gurney. The eastbound train would pull down the main track at Gurney and stop because he had a meet order establishing a meet there. Well, if the westward train was not out of Gravel it would show green.

Q But he would still stop because of --

A Because of the meet order.

Q And that is a train order?

A Yes sir. Then the train out of Gravel going west he would get the green at the west end of Gravel and if there was one intermediate signal there he would get a yellow at the intermediate signal which is a caution signal and then when he comes up to Gurney where the meet is to be he would get a red over a red on that signal system. That is indication three on page 133.

Q Figure 3?

A Yes, he would get a red over a red and as soon as he ^{set} ~~stopped in~~ the switch he would get a red over a yellow which would enable him to pull into the siding and as soon as he gets into the siding the eastward train would again get a green signal and he would proceed.

Q Well, when you have conflicting movements, Mr. Fraine, on single track protected by automatic block signal systems if the signals are obeyed is it possible for the two trains to come together?

A No.

MR. SINCLAIR: Now, Mr. Chairman, you will notice that on this Exhibit 84 taking eastward trains, they are the superior direction, westward trains are the inferior direction.

BY MR. SINCLAIR:

Q What does that mean, Mr. Fraine?

A Well, trains are superior to other trains by right, class or direction.

Q Now, taking first right?

A Right is conferred by train order.

Q Next?

A Class is conferred by timetable.

Q That is, first-class, second-class of fourth-class being eastbound?

A That is correct.

BY THE CHAIRMAN:

Q What do you mean it is conferred by timetable?

A On page 7 in Exhibit 27 the definition of schedule is:

"That part of a timetable which prescribes class, direction, number and movement for a regular train."

So that No. 8, for instance, here on this Exhibit 84 --

BY MR. SINCLAIR:

Q Which is one of the eastward trains, first-class, first column, eight, train No. 8?

A Yes. That train has the right to operate on that schedule. That schedule is the authority for the operation of train No. 8.

Q That means it is through Schreiber at 9.35 in the morning?

A No sir, it ^{is} out of Fort William at 6.10 in the morning and into Schreiber at 9.35.

Q So that eastbound you read up and westbound you read down?

A That is right because there are first-class trains in both directions. You will notice that there are trains five, seven, one and seventeen just to the left in the first box and on the right-hand of the station names are trains 8, 6, 18 and 2. Those are first-class trains, they are all passenger trains and with the exception of 17 and 18 they are



daily trains.

BY THE CHAIRMAN:

Q When I interrupted you were giving the three definitions of superiority -- right, class and direction?

A I am doing that now, sir. To distinguish between which of these first-class trains shall have right at the points where they meet it is designated in the timetable that the eastbound trains are superior direction so they hold the main track. For instance, No. 2 meeting No. 5 at Hurkett, you will notice the figures are in full face type, 10.49. The full face type indicates a meet. That meet would be established by train order as well.

BY MR. SINCLAIR:

Q Why would it be necessary, Mr. Fraine, when it is on the timetable?

A Well, otherwise there might be some delay. Train No. 5 might ^{lead} ~~be~~ in at Coughlin if he was not sure that he could get there in time to clear the main track at 10.49, he would stay at Coughlin.

Q Is that a safety factor or required rule?

A It is a safety factor. It is not required by rule but it is a practice we have on the Canadian Pacific that meets between passenger trains are always covered by train order except under signal indication. At Hurkett No. 5 would take the siding and No. 2 would

take the main track. That is the significance of the superiority of direction. That is indicated by Exhibit 27.

BY THE CHAIRMAN:

Q At Hurkett you say what?

A I am sorry, sir.

Q Which train would take the siding?

A No. 5 is in the inferior direction.

Q And the other one?

A The other one holds the main line.

Q Well, I am still lagging a little bit. Your third is what?

MR. SINCLAIR: Sir, we have no third class on Canadian Pacific.

THE CHAIRMAN: I am talking about superiority. The first is by right, the second by class and what is the third?

THE WITNESS: By direction. Right is conferred by train order, sir.

BY THE CHAIRMAN:

Q And the second one is what?

A Class. First-class is superior to second class, second-class to fourth and the other one is by direction, eastward trains are superior to trains of the same class in the westward direction.

Q And the signal is just an auxiliary?

A That is right.

BY MR. SINCLAIR:

Q On this timetable eastbound there is first-class, second-class and fourth-class. On some timetables would you have another class in there called third-class?

A I can't put my hand on one right now but I know that I have seen them. There were a couple of trains on a third-class schedule in the Alberta district some place. They don't do it very frequently.

Q On the westbound I notice first-class and second-class only?

A That is right.

Q And no fourth class?

A No, westward freight trains other than second-class trains would be operated as extras.

BY THE CHAIRMAN:

Q I am still not taking in all of this. First and second-class trains going west, westbound --

A Yes sir.

Q -- there would be no distinction between them, first or second-class in the case of meeting either a first or second-class train going east?

A No, other than a first-class train eastward meeting a first-class train westward, the superiority is established by timetable for the superior direction. The eastward first-class train would be superior to the westward first-class train. By the same token

the eastward second-class train would be superior to a westward second-class train.

Q What about as between an eastward second and a westward first?

A I was just coming to that, sir. The westward first-class train would be superior to an eastward second-class train. It is scheduled as superior. It is superior by class. That is spelled out on page 44 of Exhibit 27.

BY MR. SINCLAIR:

Q Now, Mr. Fraine, can it be summarized this way, that trains of the same class hold superiority by direction as established by the time bill?

A Generally speaking that is right.

Q Unless that is changed by train order?

A That is right. The rights of trains can then be reversed by train order.

Q Otherwise trains of the same class, the superiority is established by the time bill and here the superiority is direction east?

A Yes sir.

Q And that can only be reversed by specific train order from the despatcher?

A That is right.

Q Equally two second-class trains would have the same result?

A That is right.

Q And if there was a freight train westward and it was not a symbol train then it would have to be called an extra?

A Yes sir, that is right.

Q And your other class trains would be superior to it?

A Yes sir.

Q That is correct?

A Unless it was given right by train order.

Q Unless he was given right by train order?

A Yes sir.

MR. LEWIS: Mr. Chairman, this witness has been very good as far as hearing is concerned except the last few words of a sentence.

BY THE CHAIRMAN:

Q Yes, you have tended to get confidential at the end.

A I am sorry, sir, I didn't mean to.

Q Keep your voice up.

A Yes sir.

BY MR. SINCLAIR:

Q Mr. Fraine, I notice on the bottom of Exhibit 84 -- by the way, is there anything further you wish to refer to about train rights? The first-class trains, I notice, are all passenger. Is that generally the situation?

A Yes sir.

Q And those with second-class are all freight trains?

A Yes.

Q Are they symbol freight trains?

A Yes.

Q 952, 964 and 954 are eastward trains?

A Yes.

Q And fourth-class trains eastward are 60, 62 and 64?

A That is what we call drags.

Q A drag is a freight train that has not an advertised time for shippers. A symbol train is to the customers of the railway they advertise "Out of Montreal tonight someplace tomorrow"?

A Yes.

HON. MR. MARTINEAU: Is that the same as way freight?

MR. SINCLAIR: No, a way freight is that a train/does local switching all along the roads having ~~header~~ ^{padding} cars containing less than carload lots of freight and takes out cars and does switching at intermediate points.

BY MR. SINCLAIR:

Q The symbol trains, second-class, are through freight trains?

A Yes, all those trains are trans-continental trains practically.

Q And the fourth-class trains eastbound are handling what is known to the railway as dead freight, that is where grain and bulk

merchandise, coal and things of that kind are carried, is that so?

A Yes.

Q And the symbol trains are merchandise trains, machinery, high-class merchandise, high-rated traffic?

A Yes.

HON. MR. MARTINEAU: Where does the word "drags" come from?

MR. SINCLAIR: I only can think that it would suggest to myself that the word "drag" would mean that you drag yourself across the sub-division and it doesn't matter so much how long it takes you to get there.

THE CHAIRMAN: I suppose it drags what the symbol trains leave?

MR. SINCLAIR: Yes, it is used to fill out tonnage.

THE WITNESS: It could be empties too.

BY THE CHAIRMAN:

Q The symbol trains would leave that?

A In most instances. There are some empties that get expeditious handling because the empty is about as valuable as a load.

BY MR. SINCLAIR:

Q Now, is there anything further that you wish to comment on in regard to train movement by class, right or direction by looking at Exhibit 84?

A Well, I think there are only two things that bear on the situation and that is that the second column to the right of the station names, car capacity sidings which indicates of the passing the car capacity/siding at each of the stations concerned and underneath the bottom of the station names there is the notation that Rule 93-A applies between Schreiber and Current River.

Q Where there is not a siding at a station in that column the word "nil" is shown?

A That is right.

Q Are there other sidings intermediate to stations besides the ones shown at stations on this subdivision, passing sidings?

A No, there are no passing sidings. Those are all the passing sidings that are listed there.

Q On all the passing sidings on this subdivision are those listed on the second column to the right of Exhibit 84 and the car capacity 88 starting at Selim, Rossport et cetera are what, the number of box cars you put in there or what?

A Those spaces are calculated on the basis of 45 feet to the car which is about the size of the modern box car.

BY THE CHAIRMAN:

Q Well, are all sidings between Schreiber

and Fort William at stations?

A Yes sir, that is all passing sidings.

Q Well, are there any other kind of sidings?

A Yes, there are, sir. There are a couple of gravel pits in there around Gravel and Cavers which are just sidings off the main track.

BY MR. SINCLAIR:

Q They are only tied in at one end?

A Yes, they are spurs and the switch is taken out of those generally every fall and put back in when you want to get ballast in.

BY THE CHAIRMAN:

Q They don't assist the operation?

A No, they are used for maintenance of the railway, that's all.

BY MR. SINCLAIR:

Q Now, so that we have the trackage at a station in our mind if there were industries would there be another track off the passing siding for the service of industries called a back-track?

A Yes, in some cases you may have two or three back-tracks. You might have a small yard.

Q Then the passing sidings shown in the second column to the right of Exhibit 84 are for one train going into clear, to allow a train to meet it or to allow another train to pass?

A They are for the purpose of meeting and

passing trains. Any time they are blocked with cars which they often are then a train order is put out notifying everyone that there are ^{cars} ~~trains~~ on that passing siding.

Q When you use the term "to meet" that is when two trains coming in opposite directions meet at a point, that is a meet?

A That is correct.

Q And a passing is where a train overtakes and passes another at a point, is that right?

A That is right.

Q Now, at the bottom of Exhibit 84 I notice that there is some printing. What is in that section of this time bill?

A Those are special instructions relating to the operation of trains on the Nipigon subdivision only. The right-hand portion of the page at the bottom lists permanent slow orders as to location and it provides information with respect to the permissible speed in miles per hour for passenger trains and for freight and mixed trains.

Q What is the maximum speed of freight trains over the entire subdivision? Is there one, Mr. Fraine?

A Yes, there is.

Q Well, do you remember what it is?

A I think it is 45 miles an hour -- yes, 45 miles an hour.

Q So the maximum speed is 45 miles an hour and at certain locations that speed has to be reduced?

A That is right.

Q To 40?

A That is right.

MR. LEWIS: That is maximum speed for freight?

MR. SINCLAIR: Yes.

BY MR. SINCLAIR:

Q Now, over on the left-hand side of Exhibit 84 at the bottom I notice it refers to certain rules, for instance, Rule 261 to 271. Are those the rule numbers that are set out in Exhibit 27?

A Yes, those are the rules which govern operation by signal indication and they are at pages 122, 123 and 124.

Q I think that that pretty well speaks for itself, those various things there. What are they called when you find something printed like this, what do you call that?

A Those are footnotes.

Q Are those called special instructions?

A Yes, they are special instructions.

MR. SINCLAIR: Now, I must apologize to the Commission for taking time like this but I think it will help later on. I have asked Mr. Fraine to give us a set of orders to a train that he was

on over the entire subdivision that is shown in Exhibit 84. These are copies of the actual train orders to a train.

THE CHAIRMAN: Could we have that after the break?

MR. SINCLAIR: Yes, Mr. Chairman.

--- Recess

--- After recess.

MR. SINCLAIR: I have here a set of orders --

THE CHAIRMAN: Exhibit 85.

EXHIBIT NO. 85 -- Copies of orders issued at various points on Nipigon subdivision to train no. second 952 on February 11, 1957.

MR. SINCLAIR: Exhibit 85 is orders issued at various points on Nipigon subdivision, the train movement being second 952 on February 11, 1957. You will note, sir, that this set of orders has clearances. Those are the little greenish papers and there are, I think, four of them and they might be marked A, B, C and D. A would be the clearance at Port Arthur Ontario.

EXHIBIT NO. 85 - A -- Clearance at Port Arthur Ontario to train second 952 dated February 11, 1957.

"B" would be the one at Loon, Ontario --

HON. MR. MARTINEAU: "A" would be?

MR. SINCLAIR: "A" would be the first one which is Port Arthur Ontario and the next one that you come to would be "B" Loon, Ontario, the next green one you come to, sir.

HON. MR. McLAURIN: What will we call that; "B"?

MR. SINCLAIR: Yes sir.

EXHIBIT 85-B -- Clearance to
train second
952 at Loon
Ontario, February
11, 1957

The next one, two down, at Hurkett
Ontario should be marked "C".

EXHIBIT NO. 85-C -- Clearance
at Hurkett
Ontario to
train second
952 dated
February 11,
1957.

And the next one out of Nipigon Ontario
would be marked "D".

EXHIBIT NO. 85-D -- Clearance out
of Nipigon
Ontario to
train second
952 dated
February 11,
1957.

Now, if I may run through these
and have Mr. Fraine --

THE CHAIRMAN: Are you going to be referring separately to the pink sheets?

MR. SINCLAIR: Yes sir.

THE CHAIRMAN: Let us put numbers on them.

MR. SINCLAIR: I would suggest if you look at Exhibit 85-A you will see orders for your train are 513 -- you look over and you will find the first one.

Now, Exhibit 85-A is, as it shows, a terminal clearance. It is issued at Port Arthur Ontario at 11.35 a.m. on February 11, 1957. It is addressed to train second 952.

THE CHAIRMAN: Is that train shown on Exhibit 84?

MR. SINCLAIR: Yes sir you will notice it is a freight train being eastbound at 9.52.

THE CHAIRMAN: Out of Port Arthur at 7.30?

MR. SINCLAIR: Yes sir, and this is the second section. That is why it says "second 952" which means it is the second section.

THE CHAIRMAN: And this is a symbol freight?

MR. SINCLAIR: It is a symbol freight train, sir, and as you will find as we go through these orders it is running late, I think four hours and something late. So we have a terminal clearance.

Now the terminal clearance together with

orders for second 952 would be, in accordance with Exhibit 27, given to the conductor and the engineer. Train orders under the rules addressed to the conductor and the engineer of the train designated so the conductor of second 952 would secure a set of orders for himself and a set of orders for the engineer. He would deliver them to the engineer and the engineer would read them over first having to read everything that was on the clearance, everything that was written on the clearance, that is, he would have to see it was at the proper station, Port Arthur, he would have to see that the time was all right, that the date was right and that the train was right.



Then he would look and he would see that he was supposed to have orders for his train being 513. He would look for 513. He would turn that one over holding it with his thumb and there the next order is 16. He would see that that was 16, he would have that. He would look back at the clearance -- 27, he would look for 27, find 27, look for 28, have 28, look back, have 29. The last one, 31. He then knows he has each of the orders for his train.

He then sees that all trains which are superior and all trains of the same class due to arrive and leave have arrived and left except nil. So he knows that he has nothing to concern himself about there. He then goes on and sees that the next train ahead from this station is first 952 and it left Port Arthur at 10.48 a.m. and arrived at Current River which is the next station to the east at 11.02 a.m. Then you will see "O.k. at 11.35 a.m. J.C.". That means that the operator has repeated these orders, this clearance and **all** the orders here to the despatcher and the dispatcher has o.k.'d them.

THE CHAIRMAN: Who has repeated them to the despatcher?

MR. SINCLAIR: The operator who is named in this case as T. Crompton.

THE CHAIRMAN: He is the telegraph operator?

MR. SINCLAIR: He is the telegraph operator who does it over the despatch wire.

THE CHAIRMAN: Is he located at Port Arthur?

MR. SINCLAIR: Yes sir. He has written these orders out and cleared them with the despatcher and secured the despatcher's o.k. That justifies him in putting the initial of the despatcher and that is who "J.C." is. He then signs the clearance.

THE CHAIRMAN: Who does?

MR. SINCLAIR: The operator, Mr. Crompton. Then, we will look at the first order. That is order No. 513 --

THE CHAIRMAN: Does the small print at the bottom of the first sheet mean anything?

MR. SINCLAIR: Yes, that requires, Mr. Chairman, that the conductor, these orders do not relieve him from personally checking the train ~~register~~ ^{register} in the station to see the times of first 952. I would imagine all times that he should note are in that train ~~register~~ ^{register} and he checks and sees it.

THE CHAIRMAN: That is another check on this clearance?

MR. SINCLAIR: That is right, sir. The conductor reads these orders over and either reads them or hands them to the tail end brakeman, the rear brakeman who also reads them and checks

them over. At the same time the engineer has read over the orders and reads them over aloud or hands them to the head trainman or fireman. The head trainman or fireman having read them over, if it was the fireman he would hand them to the head trainman who also would read them over. So before the train moves out or as it is moving out these train orders have been checked by the five people on the train crew.

The engineer's copies are returned to him by the fireman or head trainman, the last man on the engine, who hands them in there and the conductor's copies are returned to him by the rear trainman and depending on the habits of the engineman or the conductor he either puts them on a clip in front of him, some of them turn them over and stick them on the engine at a place they are noted and some of them just poke them in their pockets, but they are supposed to be left available for all members at any time that are on the engine to check.

Going to the first order, Order 513, you will note that that is a 19Y order which is a restrictive order --

THE WITNESS: Non-restricting.

MR. SINCLAIR: I am sorry. It is dated February 8, 1957. Now, this train is moving on February 11th. Immediately you see that you know that that is a bulletin order and the order

is going to explain why it has that date and yet applies to a train on February 11th. It is addressed to all trains except first class trains and, of course, we are second 952 and therefore are a second class train. This bulletin order says that:

"Until further advice all freight trains must not proceed more than twenty (20) miles from a point where cars picked up on route without stopping for standing inspection."

You will note that this has been made at a specified time, 2.07 p.m. It was repeated to the despatcher at 2.07 p.m. He has o.k.'d it "COM" and it is signed by Mr. Crompton the operator.

THE CHAIRMAN: I don't understand what the instructions are.

MR. SINCLAIR: The instructions, sir, are if you pick up cars you must go 20 miles and then stop and make a standing inspection of your train. The reason for that is this, that because of the very cold weather that they were having in the northern part of Ontario at this time it was decided by the officers of the railway for purposes of safety that all trains picking up cars that had been standing would proceed 20 miles maximum, stop and check the train, that is, check the journal boxes to see that there was

nothing heating up. It is a safety precaution that is introduced so as to see that the train dope, they call it, in the journal boxes, that is the lubricating dope has not got so cold that it sticks and the journal would heat up. So until this bulletin order is annulled each train not being a first class train would have it as part of its orders. You will notice it is numbered by a fairly large number, 513.

The next order is Order No. 16. You would look at that if you were the engineer --

MR. LEWIS: What was the significance of the fact that it was a large number, 513?

MR. SINCLAIR: It just happens --

THE WITNESS: I can answer that for you, Mr. Sinclair.

BY MR. SINCLAIR:

Q Yes?

A You will notice that the other orders start at No. 1 at midnight and they were up to 16 when they started giving the orders that referred to the particular movement of this train. These bulletin orders start at No. 500 so as to distinguish them from the other orders that start with 1 at midnight on each subdivision.

BY MR. LEWIS:

Q So whenever you have a 500 it means a bulletin order?

A Not necessarily. It might be 800 on some

subdivisions, it might be 900 or 400.

BY MR. SINCLAIR:

Q But it won't be a small number?

A No, that is the usual practice.

MR. SINCLAIR: The next order is Order No. 16. You will note that this is an R order, a restricting order, restricting any train and here again this applies to all eastward trains, this order. It is dated February 11th, 1957 at Port Arthur, Ontario and the order says:

"Bad spot reported ten (10)

poles east of east switch Loon."

It has the initials on it "J.C." which is the despatcher and it means that the order has been repeated to him at 8.38 a.m., he has cleared it, Crompton repeated it. The time he repeated it to the despatcher is shown and Mr. Crompton signed the order.

Now, that means that someone has reported that there is a bad spot in the track ten poles east of the east switch at Loon and all trains in an eastward direction which would get this order, they would all get it, would have to slow down. That means it is restricting the speed of all those trains and it means also that the section forces have not yet reached it. This is a bad spot that has been reported by maybe a train crew to the despatcher or possibly a signal maintainer or somebody of that type.

The next order is Order 27. If you look at this it is a restricting order. It is dated February 11th, 1957. It is addressed to Engine 8427 and 8569, it is dated at Port Arthur and it says:

"Engines 8427 and 8569 run
as first and second 952 Port Arthur
to Selim."

Here again the despatcher has o.k.'d it, the initials have been applied, the time it was repeated and so on at the bottom are stated, and those numbers 8427 and 8569 would be the numbers of the lead engines on respectively first and second train No. 952.

THE CHAIRMAN: What do you mean by "lead engine"?

MR. SINCLAIR: This could be a consist of two or three road switchers. These happen to be road switchers.

THE CHAIRMAN: They are diesels?

MR. SINCLAIR: Yes, and so first 952 may have diesel units 8427, say 8428 and 8429, but the engine number that they work on is the number of the lead unit. So that would be 8427 first 952 and 8569 would be second 952.

The next order is Order No. 28. It is a restricting order, it is dated February 11th, 1957 at Port Arthur, it is addressed to second 952 and to first 952 and you will notice the order.

You will notice it says:

"Second 952 engine 8569 run
four (4) hours late Port Arthur to
Selim."

So it is filled out, repeated, despatcher's
o.k., initials applied, signed, which is
necessary on each order. These are checks to
assure accuracy between the despatcher and the
operator and you will notice on all the orders
they will have them. So with this order and
the timetable you add four hours to 952 and that
means that 952 until he has advanced more than
that cannot exceed the timetable plus four hours.

THE WITNESS: Second 952.

MR. SINCLAIR: Yes, I am sorry.
Second 952 cannot exceed the timetable plus
four hours.

J.N.Fraire

THE CHAIRMAN: He is at least five minutes late getting away, isn't he?

MR. SINCLAIR: When I say he cannot exceed that I mean he cannot arrive at these stations earlier than the time shown in the time table plus four hours. He can arrive later if he cannot get there, yes.

THE CHAIRMAN: Well, I was just asking -- the last time on their is 11.35 and the document is made out and if the train was running four hours late it would leave Port Arthur at 11.30?

MR. SINCLAIR: That would mean that it is leaving Port Arthur a little more than four hours late but it could not at any of these stations. As it goes over the road it could make up some time but it could not reduce its lateness by less than four hours.

THE CHAIRMAN: Right.

MR. SINCLAIR: The next order is No.29 and it shows that it was dated February 11, 1957. It is addressed to second 1952, that is our train, and also to first ⁹⁶⁴ ~~1952~~. Now, that is another second class train which can be seen from Exhibit 84 and because second 952 with the four run late is dropping back for information the despatcher and the operator are now ^{supplying} / the engineer with the information that ^{what} / second 952 is getting first 964 is also getting and you read the order:

"Extra 4049 west meet first 952 engine

3427 at Ivan, meet second 952 engine

3569 at Red Rock and meet first 964 engine

J.N.Fraime

8471 at Dorion."

Now, again checked, okayed, signed.

Now, on that order, we, the locomotive engineer on second 952, are governed only by the fourth line "meet second 952 engine ⁸⁵⁶⁹~~952~~ at Red Rock" so that we know that at Red Rock unless it is advanced we are going to meet a westbound extra being No.4049. What this order is telling first 952 and first 964 does not affect us. It is just a matter of information to us. We don't have to be governed by it or remember it.

MR. MUNDELL: Is that 4049 the engine number?

MR. SINCLAIR: That is right, that would happen to be the car body type working west as a drag.

The next order, order 31 again dated February 11, 1957, again addressed to first 964 and to second 952 from Port Arthur, Ontario says:

"First 964 engine 8471 run twenty 20 mins. late Current River to Slim."

Checked, okayed, checked and signed.

Now, what that is saying to us is that we are all right between switches and we don't have to flag unless 964 is overdue being his time plus 20 minutes.

BY MR. SINCLAIR:

Q Is that correct, Mr. Fraime?

A I would express it differently but that is the sense of it, yes.

Q I am just a poor barrister.

J.N.Fraine

THE CHAIRMAN: What do you say about it?

BY MR. SINCLAIR:

Q But what I said is correct, is it?

A Yes, you don't have to flag against first 964 until he is overdue at the next station behind you 20 minutes behind his ^{*schedule*} ~~station~~ time.

BY THE CHAIRMAN:

Q Not four hours?

A No, in his case it is 20 minutes.

BY MR. MUNDELL:

Q What do you mean you don't have to flag against him?

A You don't have to flag against him if you stop between switches at any siding or within yard limits until he becomes overdue.

MR. SINCLAIR: Now, the next would be B. That is orders that our train second 952 receive at Loon and this is clearance and similarly as I have explained these other ones, they have different orders. Then, C was received at Hurkett and it was at 12.45. You check that and go through the procedure I have gone through.

Then, when we come to Nipigon again we get clearance and here we have three orders 34, 37 and 47, and now with these orders and timetable we have moved across from Port Arthur having left there at 11.35 and we have arrived at Schreiber and this was an actual movement and Mr. Fraine was on the train.

BY MR. SINCLAIR:

J.N.Frairie

Q How long did it take you, Mr. Frairie, with this train, second 952 on February 11, leaving Port Arthur -- what time did you leave Port Arthur do you remember?

A I am not positive. I think it was about 11.45, 11.50 -- something like that.

Q And how long did it take you to go over the sub-division and arrive in Schreiber?

A My recollection is we arrived at Schreiber at 4.40 P.M.

Q On?

A February 11, the same day.

Q That was a pretty good ride for 132 miles.

BY HON. MR. McLAURIN:

Q The last order you got was at Nipigon to take you through to Schreiber?

A That is right.

HON. MR. McLAURIN: How to run the railway in one easy lesson.

MR. SINCLAIR: I was just going to ask Mr. Frairie -- I would just say first that these orders are set up by the despatcher who controls the movement of trains over his territory and are transmitted through operators in accordance with the rules to conductors and to engineers and they are checked in the various ways I have indicated.

I would like to say this, that I am quite sure there is not an engineer on the Canadian Pacific who would take as long to run through those

J.N.Frairie

orders by a great deal than I have. They run through them very, very quickly.

THE CHAIRMAN: MAYBe they would the first time.

MR. SINCLAIR: Even the first time I think they would do it faster than I did, sir.

BY MR. SINCLAIR:

Q Mr. Frairie, how are train orders and time tables looked upon by operating personnel on the railway? Are they difficult or confusing at all to them?

A No, they are the tools of the trade. To a railroad man it is just as familiar as a pipe wrench is to a plumber.

Q You don't feel there is any difficulty in looking at these and remembering them?

A No.

Q How many of these, for instance, would the ordinary -- the engineer when he got them as he went across the road would he turn them over when he had dealt with them?

A Well, the first thing he did was check his time table and recognize that he was going to have to meet No.1 or clear No.1 before any order that he had here was going to restrict him more so that was the first thing that occupied his attention.

He and the head end crew and I was there with them and we cleared No.1 at Bowker and

J.N.Frairie

from there we had a meet with 4049 west and that was the next thing. The orders were turned over until that meet was exposed and, then, of course, it was subsequently superseded in the orders here and they moved the meet from Red Rock to Coughlin.

Q That was after he had picked up orders further along?

A That is an order he picked up at Loon. Order 39 provided for this meet and stated that it would be changed and he also got there a wait at Red Rock for an extra 8482 west which was the way freight and he got a meet with him at Red Rock instead of a wait. Then, after that he got the order with respect to the track at Nipigon which was the closest place where that order could be put out.

Q What is the policy -- why do you hand out -- the crew that is on the train, the engine crew are going right from Port Arthur right to Schreiber, why don't they give them all the orders at once?

A Well, for several reasons. A despatcher cannot premeditate how each train is going to operate and as a result of that if one train loses a little time and the other one operates a little better than he thought it would he changes the meets so that one

J.H.Fraigne

train is not waiting an undue length of time for the other and that is what he did. In this case we were off our run late out of Port Arthur and the extra west, the 4049 came along a little better than he had originally anticipated so he advanced the 4049 against us one station and he gave us a straight meet on the way freight. The first wait order he gave us on the way freight was a wait to ~~hold~~ ^{help} the way freight but when we got 20 minutes off our run late ~~we~~ ^{he} saw ~~we~~ ^{he} ~~could~~ ^{give} a straight meet without ~~holding~~ ^{delaying} second 952 so he did that.

Q Mr. Fraigne, would the orders that are in Exhibit 35, would that be a normal amount of orders for a freight train moving over the Nipigon sub-division or what can you say about that?

A I would say it is typical. You could get a few more or a few less. It depends on the time of the day and what ~~other~~ ^{other} trains are on the road at the time.

Q So with the time table and these train orders and with the operation of the rules is that a typical way for the trains to move on the Canadian Pacific? What we have been discussing on the Nipigon sub-division would that be typical?

A Yes sir.

Q That would be typical main line operation, I take it?

J.H.Fraire

- A Yes, but the method would be the same on a branch line. There might not be as many trains.
- Q And would a branch line have any signal indication centralized or automatic?
- A No, they would not have that.
- Q They would be time table and train order?
- A That is right.
- Q Now, Mr. Fraire, you have for the Commission been through the records of the company and the evolution of road motive power, have you not?
- A Yes.

- 2165 -

J.N. Fraine

MR. SINCLAIR: And we have taken out certain representative pictures of the various types from the earliest road locomotives up to the present type now operating on Canadian Pacific and the first one, sir --

THE CHAIRMAN: We had some of those.

MR. SINCLAIR: Those were yard engines, sir. That was all yard motive power and it is a similar development over the years of road motive power.

THE CHAIRMAN: The first one is 86 then.

EXHIBIT No. 86 -- Photograph of wood-burning locomotive No. 130.

MR. SINCLAIR: Exhibit 86, sir, is Engine No. 130. I think this is the earliest type on the Canadian Pacific as it shows. Exhibit 86 is a wood-burning locomotive with a haulage capacity of 12 per cent and that is ~~12 per cent~~ ^{one per cent} ~~for each pound~~ ^{thousand pounds} of tractive effort. It has a total weight of 68,500 pounds and boiler pressure of 140 pounds, fuel capacity one-half a cord of wood, water capacity 2,200 gallons. As you will see in the picture there are six men.

BY MR. SINCLAIR:

Q Is there any significance in six men on there, Mr. Fraine?

A Well, there is an engineer, fireman, wood passer and three train crew members.

BY THE CHAIRMAN:

Q A wood what?

A Wood passer.

BY MR. SINCLAIR:

Q Now, on wood-burning locomotives of this type did they carry a wood passer?

A Yes.

Q What did the wood passer do?

A Well, wood is a pretty fast-burning fuel and somebody had to get the wood to where the fireman could use it and he passed the wood to the fireman.

MR. SINCLAIR: The next type --

THE CHAIRMAN: That looks like the same type.

MR. SINCLAIR: It is the same locomotive as shown in Exhibit 86, exactly the same locomotive converted to coal.

EXHIBIT No. 87 -- Photograph of
Engine No.
130 coal-burning.

MR. SINCLAIR: Exhibit 87 is locomotive No. 130 and it shows it was rebuilt in 1898 by the Canadian Pacific. Its boiler pressure now is 160 pounds instead of 140. Its weight on drivers is 71,000 pounds, it has a haulage capacity of 1 per cent greater and its **cab is wood**, its lighting is by oil lamp and its fuel capacity is now ten tons of coal instead of half a cord of wood.

BY MR. SINCLAIR:

Q What would be the crew on that engine, Mr. Fraine?

A The same as at present on steam engines -- an

engineer and a fireman.

Q And a train crew on a freight train would be how many?

A Three men, conductor and two trainmen.

Q So the difference in the locomotive, even though its haulage capacity increased 1 per cent on conversion from wood to coal resulted in one less member of the train crew?

A Yes.

BY THE CHAIRMAN:

Q And fewer stops?

A Yes, that engine would go more distance without fuel and water -- twice the water capacity and quite a bit more fuel capacity.

MR. SINCLAIR: The next type, sir, is locomotive No. 686.

EXHIBIT No. 88 -- Photograph of
locomotive
No. 686.

MR. SINCLAIR: Exhibit 88 is what is known as a D10 class engine, which is a type of engine of which there were a great number on the Canadian Pacific that were used for many, many years with certain modifications and there are still some running on the Canadian Pacific. It was first built in January 1906 by the Montreal Locomotive Works, boiler pressure 200 pounds, weight on drivers loaded 156,000 pounds, haulage capacity 33 per cent and this locomotive is shown in Exhibit 88 as a steel cab but it has an open vestibule, that is, with side curtains. Originally

its head lamp was a carbon electrode and the cab light was oil and it has a fuel capacity of 12 tons of coal.

BY MR. SINCLAIR:

Q Anything further on that, Mr. Fraine?

A No, it is just a little bigger engine than the other one with a little more fuel and water capacity.

HON. MR. MARTINEAU: Have you anything to say of the cleanliness of the equipment?

THE WITNESS: They were all like that when they were first put on, sir, I think.

MR. SINCLAIR: These are photographs from our official records and the Canadian Pacific pride themselves on having clean engines at least in photographs.

EXHIBIT No. 89 -- Photograph of
Engine No. 686
showing interior
of cab.

MR. SINCLAIR: Now, the next photograph is the same engine. It is the interior of the cab of Engine 686 showing certain of the appurtenances which, Mr. Chairman, you will note we have marked. It shows with stickers pasted on starting at the right the reverse lever which is sometimes called and may be used in descriptions here, the Johnson bar, the air brake gauge and shows an injector on the engineer's side. That is required by law to have an emergency injector on the engineer's side. The trycocks of the boiler, throttle lever coming across



extended on a bar, the water gauge mounting, the steam heat valve, the fireman's injector, the air pump valve, the sprinkler valve and below it shows the grate levers for the fireman to look after his fire and shake it down and it shows the fire door which you will note has to be opened by hand or a fellow striking it with the end of his shovel and letting it swing open. It is not an automatic fire door and, of course, it was ~~knocked~~^{kept} open while the fireman threw in this coal and would affect his ability to keep pressure up.

BY MR. SINCLAIR:

Q Anything else on that one, Mr. Fraine? If there is anything you wish to comment on as I run through these maybe you would do so, Mr. Fraine, and if I make any mistakes or you feel I have not explained them properly would you please stop me and correct me?

A Yes.

MR. SINCLAIR: The next is locomotive No. 3718.

EXHIBIT No. 90 -- Photograph of
engine No.
3718.

MR. SINCLAIR: This is the locomotive that we have heard about earlier in the evidence being an N2 class. This locomotive was also used in yard work. It first came out in 1912. There are still some of them operating on the Canadian Pacific. It had a haulage capacity of 43 per cent -- a powerful loco-

motive. It was hand-fired when it first came out and its fuel capacity is 12 tons. It has what is known as a vestibule cab. As you will see, the cab is steel and enclosed. The side curtains that were on Exhibit 88 have disappeared thus adding to the comfort of the men in the engine and the wooden cab has been replaced by a steel cab which, of course, was a greater comfort and added a safety factor.

MR. LEWIS: There is a steel cab in Exhibit 88 as well?

MR. SINCLAIR: Yes, 88 has a steel cab. This is now a vestibule steel cab in Exhibit 90.

The next one, sir, Exhibit 91, is Engine No. 5181 which is a P1 class of engine of which the Canadian Pacific had a great number and of which some are still running.

EXHIBIT No. 91 -- Photograph of
engine No. 5181,
Class P1E.

MR. SINCLAIR: I should mention possibly that Exhibit 90 and Exhibit 91 are hand-fired engines although as I will explain later some of them had stokers applied, for instance to the P1 and they were difficult to fire particularly when they were working hard and the fireman had, if I may use the phrase, an arduous job in firing these locomotives.

Like Exhibit 90, Exhibit 91 has a 43 per cent engine and there are still some hand-fired P1's on the Canadian Pacific.

BY MR. SINCLAIR:

Q Mr. Fraine, have we got rid of them in the last little while?

A I don't think there are any now that are hand-fired. There may be the odd one.

Q There are still some hand-fired N2's on the railway?

A Yes.

MR. SINCLAIR: That is Exhibit 90.

THE CHAIRMAN: No, 91

MR. SINCLAIR: 91 is the P1, sir.

Mr. Fraine says that the hand-fired ones of this type are now off the railway.

THE CHAIRMAN: Of what type?

MR. SINCLAIR: P1 in Exhibit 91, but there are still some of the hand-fired N2's, that is, Exhibit 90, still on the railway. The 5100's, that is, the P1's, the ones in operation are pretty well stokered or oil-fired.

BY MR. SINCLAIR:

Q That does not apply to the 3700's which are in Exhibit 90?

A No. Well, some of the 3700's had oil in yard service with no stokers.

Q But there are some coal-burning 3700's hand-fired still on the railway?

A That is right, in yard service and occasionally on the local main line service.

Last year, for instance, were they not running

between Toronto and Havelock?

A Occasionally.

Q Hand-fired type 3700's as in Exhibit 90?

A Yes.

MR. SINCLAIR: The next, sir, is engine 5181 which was equipped with a stoker, Exhibit 92.

EXHIBIT No. 92 -- Photograph of
interior of
cab of stoker-
fired engine
No. 5181.

Exhibit 92 shows Exhibit 91 supplied with an automatic stoker, Exhibit 92 being the Pl class engine showing the interior with the stoker and the various appurtenances. You will see on the righthand side the fire door lever. At this time this picture does not show the engineman's seat but it does show up above with the throttle and rod going across to the right side and the Johnston bar that we have in one of the earlier ones, the reverse lever would here have been changed to an air reverse.

BY MR. SINCLAIR:

Q Would it, Mr. Fraime?

A I beg pardon.

Q The Johnston bar on this type of locomotive would have gone and there would be an air **reverse**?

A Either an air reverse or a screw reverse. They are both screw reverses. One is operated by air and the other is operated

Q By hand, manually.

A Yes, it is an Armstrong.

Q All right, various other appurtenances are marked. Who would handle these appurtenances shown in Exhibit 92, Mr. Fraime?

A Well, with the exception of the throttle the fireman would handle them. That is the fireman's side of the engine.

MR. SINCLAIR:

The next exhibit is 93, Mr.Chairman. It is a photograph of engine 2300, a class of which the Canadian Pacific had a substantial number.

EXHIBIT NO.93: Photograph of engine No.2300 class G3.

Exhibit 93 is a 2300 class engine or what is known as a G3. This engine was originally put out had a brick arch as it is stated here on some of the particulars and it was not equipped with an automatic stoker or feed water heater until 1923. This was a dual purpose locomotive, a locomotive that was used in passenger and freight service.

You will notice fairly high driving wheels, Mr. Chairman and members of the Commission, and it was a 42 per cent locomotive and when it was hand-fired it also required a very high degree of skill to keep steam up and also a lot of hard work.

THE CHAIRMAN: You say this is a passenger engine?

MR. SINCLAIR: Dual purpose, passenger and freight, sir.

THE CHAIRMAN: What about the others?

MR. SINCLAIR: They are freight locomotives only.

THE CHAIRMAN: Only.

MR. SINCLAIR: Yes, they were built for freight service. They could have pulled the odd passenger train but they were built for freight

except that I think maybe the P1 was sometimes used as passenger locomotive on the heavy grade territory.

BY MR. SINCLAIR:

Q That is right, Mr. Fraime?

A The P1 was operated in passenger service to some extent particularly, I think, in the lower sections of British Columbia, the southern road through British Columbia.

MR. SINCLAIR: The 2300 is a dual purpose passenger and freight.

The next Exhibit 94, is a P2, engine 5303.

EXHIBIT No.94: Photograph of Engine No. 5303, class P2A.

The P2 is a more powerful freight locomotive -- 56 per cent and having weight on drivers of 243,000 pounds. It was used pretty generally right across the system and it was this locomotive that boosted the fireman's job to an extent that it was becoming very onerous and also they at some times were hand-fired and this was one of the first classes to which the stoker was applied and while they did run for quite a few years without stokers the firemen found the work very, very difficult and were constantly saying that the job was too arduous for them to handle.

BY MR. SINCLAIR:

Q These locomotives, I think, Mr. Fraime, all of them subsequently were converted by the

late twenties or early thirties, they all had automatic stokers supplied. Is that so or were there some that were never stokered?

A Well, they started, I think, about 1923 to put stokers on them. I am not sure when they converted them but I have ridden that 5303 myself and I think it had a stoker on it.

THE CHAIRMAN: We will adjourn now.

-- The Commission adjourned at 4.00 p.m. until 10.30 a.m. Thursday, March 23, 1957.

**ROYAL COMMISSION ON EMPLOYMENT OF FIREMEN
ON DIESEL LOCOMOTIVES IN FREIGHT AND YARD
SERVICE ON THE CANADIAN PACIFIC RAILWAY**

17

PROCEEDINGS

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I N D E X

WITNESSES:

FRAINE, . J.N.
Exam. by Mr. Sinclair 2179

EXHIBITS:

No. 95 - Photo, Engine 5935 2179
96 - Photo, Engine 8012 2184
97 - Photo, Engine 8426 2184
98 - Photo, interior Engine 8426 2186
99 - Photo, Engine 8535 2186
100 - Photo, Engine 8916 2187
101 - Photo, Engine 4029 2190
102 - Photo, Interior view 2190
103 - Photo, B unit 44-448 2192
104 - B Examination Book 2203
105 - A Examination Book 2206
106 - Comparison of duties,
steam and diesel 2207
107 - Trip reports 2251

ROYAL COMMISSION ON EMPLOYMENT OF
FIREMEN ON DIESEL LOCOMOTIVES IN
FREIGHT AND YARD SERVICE ON THE
CANADIAN PACIFIC RAILWAY

Proceedings of public
hearing held at Ottawa,
Ontario, Thursday, March 28,
1957

PRESENT:

Hon. R.L.Kellock,	Chairman
Hon. C.C.McLaurin,	Member
Hon. Jean Martineau,	Member
Douglas M. Fraser,	Secretary
A.R.Winship,	Assistant Secretary

APPEARANCES:

D.W.Mundell, Q.C.	Representing the
C.J.A.Hughes, Q.C.	Commission
I.D.Sinclair,	Representing the
Allan Findlay	Canadian Pacific Railway Company
David Lewis,	Representing the
	Brotherhood of Locomotive Firemen and Enginemen

Thursday,
March 28, 1957

17th DAY

MORNING SESSION

--- The Commission opened at 10.30 a.m.

J.N. FRAINE, Recalled

EXAMINED BY MR. SINCLAIR:

Q Yesterday we were dealing with the development of motive power for road service on the Canadian Pacific. I think the last exhibit was Exhibit 94, which was a photo of Engine P-2. The next exhibit will be Exhibit 95, being known as the T-1 class engine, being Engine 5935 which was built in March, 1949. The boiler pressure is 285 pounds and the weight on drivers is 369,100 pounds with a haulage capacity of 89 per cent. This is an oil burner.

EXHIBIT No. 95 -- Photo, Engine
5935.

BY MR. SINCLAIR:

Q Now, Mr. Fraine, the steam locomotives shown on Exhibit 86 to Exhibit 95 inclusive, are they all the types of road steam locomotives that were used on the Canadian Pacific or are used?

A No, they are not all of the types; they are a cross section. We have 5700's; we have the 5000 class; we have the 3,200 class, but those represent a cross section.

Q What was the effect of the development of the steam locomotive as used on the Canadian Pacific on the work of the fireman?

A Well, we dealt yesterday with the wood burner.

Q That was Exhibit 86?

A Exhibit 86, and Exhibit 87 to Exhibit 94 indicate the continual growth in the capacity of the locomotive and improvements in its design that were incorporated in succeeding types of engine. It gradually reached the stage where it was reaching the limit of a fireman's capacity to produce steam by firing with a shovel.

Q The locomotive shown on Exhibit 87 up to and including Exhibit 94, when those types were first introduced on the railway were they or were they not all hand-fired?

A When those types were first introduced they were all hand-fired locomotives.

BY THE CHAIRMAN:

Q That is up to which exhibit?

A Up to Exhibit 94, Engine 5303.

BY MR. SINCLAIR:

Q You said that as they developed, I think your evidence was that they reached --

A The limit of what a fireman could be expected to do with a shovel.

Q That was -- then what happened?

A Well, the company recognized that and starting with the class of locomotive shown in Exhibit 91 --

Q That is the P-1?

A P-1, the 2300 in Exhibit 93 and the 5300 in Exhibit 94. Stokers were applied to them commencing around 1923.

Q I do not think there is any controversy about this, but just to keep it in sequence. I think you said yesterday that even today there are some of these types on the railway that are still hand-fired?

A Yes, we have a number of 3700's, Exhibit 90, that are still hand-fired. They have not been converted. Some of those that were converted to stoker engines, when that was done the engine was modified and they were renumbered as 5200's.

Q Looking at Exhibit 95, the T-1, Engine 5935, that shows it is an oil burner. Were any of those locomotives coal burners?

A No sir, they were built as oil burners.

MR. SINCLAIR: That is the last type. Mr. Chairman, you will recall that Mr. Gossage referred to this locomotive in his evidence and said it was the largest steam locomotive in the British Empire. It has a haulage capacity of 89 per cent.

A-2

BY MR. SINCLAIR:

Q In your opinion, Mr. Fraine, with a locomotive of that haulage capacity would it be possible to hand-fire it?

A No. If that were a hand-fired engine I do not think one man could fire it.

Q When the stokers were applied and the modifications started -- the first stoker modifications were placed on what type of engine, passenger or freight?

A I do not know that I could answer that

accurately, but I believe they were put on passenger trains, on the 2300's first.

Q Were there any requests made to the company to modify these hand-fired locomotives?

A Yes, there were. From time to time the firemen's organization made representations to the company that the size of these locomotives was getting to the point where it was beyond what a man could reasonably be expected to do.

Q Do you know now in what years those representations were made?

A Oh, I would say it was in the twenties. I have seen or know of cases where it has been fairly recent in connection with these 3700's.

Q Was there or was there not any movement early in the war years, around 1939 to 1940, do you know?

A No, I do not know.

Q You say in recent years the Brotherhood have complained about the work on the 3700 hand-fired?

A That is right.

Q Is that right?

A That is right.

Q Now, on a stoker steam engine, Mr. Fraine, do you know whether that requires much work from the fireman in regard to running the injectors and stoker?

A Well, it was not physical work to the extent of firing with a shovel was physical work, but

there was work involved in controlling the fire through the operation of the stoker and adjusting the water pump to control the level of water in the boiler consistent with the conditions under which the locomotive was being operated.

There were occasions when the coal would bridge over the stoker trough or some foreign body in the coal would jam the stoker or bridge the stoker trough in the same manner that coal would, and under those circumstances of course there was some physical exertion required and some work required to get the stoker back functioning again.

Q On stoker engines was it ever necessary or was it possible to supplement the stoker by hand-firing, do you know?

A Yes, I have seen it done on several occasions. I can recall being on a P-2 engine with a stoker operating between Kenora and Ignace, for example. We practically stripped the tender of coal at Eagle River, which is roughly half way over the division. We built it up again; when we arrived at Ignace we had a couple of wheelbarrow loads of coal in the tender. On that particular occasion the fireman was quite active with both the scoop and the poker supplementing the stoker.

MR. SINCLAIR: The next photograph I have, which will be Exhibit 96, is of the first

road diesel locomotive secured by the company. It is Engine 8012, which was built in 1948. It was imported from the United States as at that time none were built in Canada, so I am instructed.

EXHIBIT No. 96 -- Photo, Engine 8012.

MR. SINCLAIR: This is a road switcher, Baldwin locomotive, the first one received by the company.

BY MR. SINCLAIR:

Q When were they received, Mr. Fraine?

A They were received in 1948 and they went into service on Vancouver Island early in 1949, January and February.

Q How many did the company secure of this type of locomotive, do you know?

A I think it was 13.

MR. SINCLAIR: The Commission will notice that it is 1,000 horsepower. It is a road switcher freight locomotive.

The next one, which will be Exhibit 97, is another road switcher. It is what is known as the Alco model, sometimes also referred to as the MLW, referring to Montreal Locomotive Works, but generally referred to as the Alco. It is Engine 8426, built in 1954. It is a road switcher type, of 1,600 horsepower and the total weight is 258,000.

EXHIBIT No. 97 -- Photo, Engine 8426

BY MR. SINCLAIR:

Q Mr. Fraine, is the total weight on the drivers on diesels?

A Yes sir, on this one --

Q Are there any where the total weight is not on the drivers?

A I think, subject to check, that my recollection is that there is one axle on the Fairbanks Morse Trainmaster -- I am not sure of that --

Q Would you mind --

BY THE CHAIRMAN:

Q You did not complete your answer. You were saying something about the Fairbanks Morse Trainmaster, one axle of that?

A Well, I say I am not sure of it but I think that perhaps one of the axles on that is not a driving axle. I may be wrong on that.

BY MR. SINCLAIR:

Q Would you check that?

A Yes, I will be glad to check it.

Q But other than that?

A Other than that they are all driven axles.

Q The total weight --

A The total weight is on the driving axles, the driving wheels.

MR. SINCLAIR: I notice, Mr. Chairman, that this unit is geared for 75 miles per hour. Exhibit 98 is the interior of diesel engine 8426 showing the left side.

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EXHIBIT NO. 98 -- Interior of
diesel engine
8426 showing
left side

HON. MR. MARTINEAU: 8426 is what
exhibit?

MR. SINCLAIR: Exhibit 97. It shows
the left side of the cab of that type of unit.
It shows the interior of the cab, the left side
of Alco road switcher showing the location of the
fireman's and head trainman's seats.

BY MR. SINCLAIR:

Q Mr. Fraine, which is the fireman's seat and
which is the trainman's?

A The one to the rear or left is the fireman's
seat and the one to the right or front is
the trainman's seat.

MR. SINCLAIR: Then, exhibit 99 is
another type of road switcher. This is a General
Motors road switcher, being engine 8535. It has
1750 horsepower and it is geared to 65 miles per
hour. The weight on drivers, in the light of
Mr. Fraine's earlier answer, is 258,600 pounds, 100
pounds heavier than the Alco unit shown in
Exhibit 97.

EXHIBIT NO. 99 -- Photograph of
Canadian Pacific
Road switcher
8535

MR. SINCLAIR: Mr. Fraine mentioned
the Trainmaster earlier and I should like to file

1875

1875

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1875

a photograph of it as Exhibit 100. It is engine 8916.

EXHIBIT NO. 100 -- Photograph of
Canadian Pacific
road switcher
8916

THE CHAIRMAN: Is this a road switcher?

MR. SINCLAIR: Yes, it is a road switcher, sir. As I understand it, and I do not think there is any dispute about it, from the basis of horsepower this is the most powerful diesel on the Canadian Pacific.

BY MR. SINCLAIR:

Q Is that right, Mr. Fraine? It has 2400 horsepower?

A Yes, that is right, and I have just checked my book here and I see that the total weight on drivers is the same as the total weight of the unit shown here so that all of the driving axles are -- all of the axles are driving axles.

Q So that you have now checked your answer to me earlier concerning the weight of diesels being on drivers and in every case the diesel weight is all on drivers?

A That is right.

BY THE CHAIRMAN:

Q Is that open space sort of a verandha at the back?

A Pardon?

1. The first part of the paper is devoted to a general discussion of the problem of the existence of solutions of the system of equations

which is the subject of the present paper.

It is shown that the system of equations has a solution if and only if the matrix A is nonsingular. The proof of this theorem is given in the next section. In the third section we give a detailed description of the solution of the system of equations. In the fourth section we give a detailed description of the solution of the system of equations.

2. The second part of the paper is devoted to a detailed description of the solution of the system of equations

which is the subject of the present paper.

It is shown that the system of equations has a solution if and only if the matrix A is nonsingular. The proof of this theorem is given in the next section. In the third section we give a detailed description of the solution of the system of equations. In the fourth section we give a detailed description of the solution of the system of equations.

3. The third part of the paper is devoted to a detailed description of the solution of the system of equations

which is the subject of the present paper.

It is shown that the system of equations has a solution if and only if the matrix A is nonsingular.

The proof of this theorem is given in the next section.

In the third section we give a detailed description of the solution of the system of equations.

In the fourth section we give a detailed description of the solution of the system of equations.

4. The fourth part of the paper is devoted to a detailed description of the solution of the system of equations

which is the subject of the present paper.

Q Is that area behind the cab all open except for the roof?

A No sir, that is the white band carried through there. It gives that appearance, but actually the roof, where the roof ends is also the end of the hood.

Q The two tones are deceptive?

A That is right.

BY HON. MR. MARTINEAU:

Q Mr. Fraine, may I ask what is behind the cab?

A On Exhibit 100, sir?

Q Let us say on Exhibit 99?

A On Exhibit 99, that is engine 8535.

Q Yes. We can see through the cab.

A Yes.

Q There seems to be something at the rear?

A You mean behind --

HON. MR. McLAURIN: What is behind the cab?

MR. SINCLAIR: You mean in front of the cab, I think, sir.

HON. MR. MARTINEAU: In here.

MR. SINCLAIR: On that type of locomotive we call that the front.

THE WITNESS: That is the leading end of the unit.

HON. MR. MARTINEAU: That is the leading end.

MR. SINCLAIR: Yes sir, on that one.

THE WITNESS: That would be an open space unless the unit was equipped with a steam generator. If it has a steam generator the steam generator is in that space.

MR. SINCLAIR: Mr. Justice Martineau, if you look at Exhibit 97, Alco unit 8426, the same kind of space or place for the steam generator in that case is behind the cab on the Alco unit. These units can ride either forward or backward. They can ride in either direction, but what we call the front on the Alco is the engine ahead. That is Exhibit 97, and in Exhibit 99, the General Motors unit, what we call the front is the short end ahead with the engine behind. On the Trainmaster the short end is behind. It is optional, sir, as to how you have them, whether you have the short end to the front or the engine to the front. Later with another witness, so that we will be able to clear this up, the policy of the company will be explained as to what they are running ahead, the short end or the engine ahead. The policy of the company for all units purchased in 1957 and for the future of the road switcher type is that they will operate short end ahead, whether of General Motors, Alco or Fairbanks Morse design.

THE CHAIRMAN: I assume that Fairbanks

Morse is the Trainmaster.

MR. SINCLAIR: Yes sir. That is Exhibit 100.

THE CHAIRMAN: All right.

MR. SINCLAIR: I am sorry. I am instructed by my mechanical advisers, sir, that there are just three units out of the 670 units now on the Canadian Pacific where the total weight of the diesel is not on the drivers and they are passenger type locomotives. With those exceptions, the weight of the diesel is all on the drivers, and those three exceptions are in passenger service. Now, Mr. Chairman, I should like to file as Exhibit 101 what is known as an "A" unit or a General Motors FP7. That is the technical name for them but we call them "A" units, and I think they have been so referred to a number of times in the evidence. This unit, sir, was built in 1950. It has the control cab on the front end and it is open. It is for freight and passenger service.

MR. LEWIS: What do you mean by "open"?

MR. SINCLAIR: Nothing in front of the men where they sit in the cab.

THE CHAIRMAN: The two distinguishing terms are "A" unit and road switcher?

MR. SINCLAIR: That is right, sir.

HON. MR. McLAURIN: And we should call

this a car body type.

MR. SINCLAIR: This is a car body type. The locomotive shown in Exhibit 101, being engine 4029, is geared to 65 miles an hour.

EXHIBIT NO. 101 -- Canadian Pacific
diesel locomotive
4029

MR. SINCLAIR: I should like to file as Exhibit 102 a shot of the interior of the cab of that type of locomotive.

EXHIBIT NO. 102 -- Interior of
cab of "A"
unit type of
diesel
locomotive

THE CHAIRMAN: In view of what was said yesterday about the policy of the company for the future as to using the road switcher type, how many of these "A" units have you got? Perhaps you were going to give that but in case you were not --

MR. SINCLAIR: That was set out in Exhibit --

MR. LEWIS: Exhibit 83.

MR. SINCLAIR: Exhibit 83.

THE WITNESS: It totals, I think, 119.

MR. SINCLAIR: 119 "A" units, 38 passenger only, 43 freight or passenger and 38 freight only.

THE CHAIRMAN: All right, it is there.

BY MR. SINCLAIR:

Q Looking at Exhibit 102, Mr. Fraine, would you correct me if I am wrong? You can see the throttle on the right-hand side?

A I think that is the transition lever.

Q Oh yes, you cannot see the throttle that is the transition lever.

BY THE CHAIRMAN:

Q What is that?

A Well, I am a layman, sir, with respect to this but it is similar to a gearshift. It allows the motors to change in their various manners, from series to shunt and so on, series parallel, I am not too familiar with it but that is what it is.

BY MR. SINCLAIR:

Q They notch it over, I think, from one to eight?

A Most of them -- no, one to four -- most of them are automatic transitions.

Q They are automatic?

A So once it is placed in four it automatically changes as the speed of the locomotive increases.

Q We will have a witness who will deal with that. Whose seats are these, Mr. Fraine?

A The seat next to the window is the one occupied by the fireman and the seat next to it toward the centre of the cab is the one occupied by the trainman.

J.N.Fraire

Q My last photograph, sir, will be Exhibit 103. It is "B" unit, ^{being} unit 44-448. Exhibit 83, I think, also showed how many of this type the Canadian Pacific have.

MR. LEWIS: Eighty-one altogether.

EXHIBIT 103: Photograph of "B" unit
44-448.

MR. SINCLAIR: Exhibit 83 -- these are "B" units, 20 passenger only; 37 passenger or freight and 24 freight only, a total of 81. The unit pictured is geared for 65 miles an hour, 1,500 horsepower and the weight on the drivers is 247,100; built in 1952.

MR. LEWIS: It has no controls.

MR. SINCLAIR: It has no control cabin; it does have a control station in it, but only to enable it to be moved around the shop track; it can be moved a little distance; small control.

THE WITNESS: IT is called a hostler's station.

MR. SINCLAIR: But it does not run on the road or anywhere except moving it a few feet, unless it is coupled to an "A" unit or to a road switcher. This can be coupled to an "A" unit or to a road switcher; it does not make any difference. It can be coupled to any of the locomotives shown in Exhibits 96, 97, 99, 100 and 101.

THE CHAIRMAN: Well, if one wants to know the number of "A" units which can operate, not

J.H.Fraine

on the shop track, but can operate, one would eliminate the "B" units and he would get 119 instead of 200. Is that right?

MR. SINCLAIR: That is quite right, \$1 from 200.

THE CHAIRMAN: All right.

MR. SINCLAIR: There is no dispute about this, Mr. Chairman. All of the units that are shown here operate, with the exception of the "B" units, either singly or in multiples.

BY MR. SINCLAIR:

Q And it is possible and does take place on the Canadian Pacific, does it Mr. Fraine, that you can have an "A" unit, a "B" unit and an "A" unit and a road switcher, or a road switcher and a "B" unit, or a road switcher and an "A" unit?

A Yes sir.

Q All various combinations. I think you said that all, with the exception of "B" can be operated in multiples. Of course "B" can be operated in multiple, but it cannot operate by itself. A. It can be operated in multiple and "B" --

THE CHAIRMAN: I suppose "B" unit can never be the leading unit.

MR. SINCLAIR: That is right; the "B" unit can never be the leading unit.

THE CHAIRMAN: Its function is to push.

MR. SINCLAIR: Yes, sir.

J.N.Fraine

THE CHAIRMAN: Unless, of course, the cars were in front of the locomotive when it was going in the direction where the unit leads the "B" unit.

MR. SINCLAIR: All of these diesels can be reversed and they are geared in such a way that they operate just as well going one direction as they do going in the other direction.

THE CHAIRMAN: Yes. What I really had in mind was this. Take what the layman understands as a train --

MR. SINCLAIR: Yes.

THE CHAIRMAN: You could not have the "B" unit as leading that movement?

MR. SINCLAIR: No, sir.

THE WITNESS: The only time the "B" unit would lead the movement would be the reverse movement of the locomotive consist where the "B" unit was the trailing unit.

BY MR. SINCLAIR:

Q That would not be the train?

A No, sir, but it could be; but it is not likely.

BY THE CHAIRMAN:

Q To put it shortly, the "B" unit is always pulled?

A That is right.

BY MR. SINCLAIR:

Q What has been the effect of dieselization on assisting engines, if any?

A Well, the effect of dieselization is to eliminate

J.N.Fraire

assisting engines.

Q In steam days on the Canadian Pacific were assisting engines used extensively?

A They were used where there were heavy grades that justified their use, yes.

THE CHAIRMAN: I do not quite follow that. Just a minute. If you have a multiple unit consisting of two "A" units, for instance, is it not correct to call one of them an assisting engine?

MR. SINCLAIR: No, sir. That is what I was going to ask. There is no controversy about this; maybe I might explain it. On a diesel locomotive it can consist of one unit or four, and in some places, but not on the Canadian Pacific, they run five, and they are all controlled from the leading unit, and one control station. They are independently powered, but there is only the one engineer controlling all the five units on some railroads, up to four on the Canadian Pacific.

THE CHAIRMAN: That is what you mean by assisting; one has its own crew.

MR. SINCLAIR: Yes, sir, but the correct designation of the diesels is single. They are referred to as units, when they are attached to the train either singly or in multiples, those single or multiple units put together become the locomotive.

THE CHAIRMAN: That is not a very good description. The whole thing is the unit, and the rest are component parts. We understand what you

J.H.Fraire

mean.

MR. SINCLAIR: I agree with you, sir, it is not expressed very well in the way they talk of it on the railway.

BY MR. SINCLAIR:

Q Did the development of more powerful steam locomotives and latterly the application of diesel motive power affect the length of locomotive runs?

A Oh, yes, as steam engines became more advanced in their design it was quite common for them to be used, particularly in passenger service, over perhaps three or four subdivisions, in some cases a little more than that, but that was about the average, and with the diesel, of course, we have got some runs where diesel locomotives are put on transcontinental passenger trains at Montreal and go right through to Vancouver.

Q Without ever coming off the train?

A Without coming off the train.

Q What effect has that had on such things as maintenance facilities over the road?

A Well, it has had this effect; the diesel locomotive concentrates maintenance at specific points, and the intermediate maintenance points which were necessary with steam at each terminal have been reduced until they

J.H.Fraine

are now small service stations. They provide fuel and water and oil if needed, and perhaps a quick visual inspection by the locomotive foreman; whereas the steam engine usually went into the roundhouse and was attended to by mechanics and fitters, and so on.

Q I am now moving away from the resultant aspects. Before I do so, my friend, Mr. Findlay has reminded me that I wished to ask Mr. Fraine this question. He talked of the concentration of these maintenance points. How many major maintenance points for diesels are there on the Canadian Pacific, Mr. Fraine?

A We have four at the present time, one at St. Luc in Montreal, one at Chapleau, which is west of Sudbury, one at Alyth, Calgary and one at Nelson. These are what we call primary maintenance points. All of the locomotives that they ~~were~~ operating ~~were~~ maintained at one or the other of those points and they ~~can~~ *run* between them.

Q Is it or is it not a fact that plans are started now to make Winnipeg a primary maintenance point?

A Yes, Winnipeg will be a primary maintenance point and there may be one more, perhaps at Toronto.

Q That will contrast with how many , primary maintenance points that steam had?

A At least one on every division.

J.N.Fraigne

Q At least one on every division?

A And in some cases there were two on each division.

Q How many divisions are there on the Canadian Pacific?

A Thirty-two, I think it is.

BY HON. MR. McLAURIN:

Q Where were some of them for steam passenger trains?

A Maintenance points?

Q Yes.

A With steam we had one at Montreal, for instance, the Glen yard, the passenger maintenance point, St. Luc, ~~yard~~^{and freight} maintenance point. We have four at the moment with one more contemplated.

Q Under steam how many did you have?

A There would be at least one on every division; we have ~~12~~³² divisions.

Q What is the size of a division, 25 miles?

A A division, sir, is a superintendent's territory.

MR. SINCLAIR: 125 miles on the average; some go up to 175 miles and some lower.

BY HON. MR. McLAURIN:

Q Give me some place with which I am familiar such as Calgary to Edmonton, is that a division?

A That is two subdivisions sir. I do not want to confuse it. Calgary to Red Deer is a subdivision.

Q Calgary to Red Deer is a subdivision, is it?

A That is a subdivision.

J.N.Fraire

Q Red Deer to Edmonton is a subdivision?

A Yes, sir.

Q The two put together is a division?

A No. The superintendent at Edmonton has jurisdiction over the territory from Red Deer to Edmonton and he has a number of branch lines that radiate from it under his jurisdiction. The superintendent at Calgary has supervision over the subdivision which runs from ~~Laggan~~ *Calgary* to Field, the Red Deer subdivision and Calgary terminals.

BY THE CHAIRMAN:

Q When you speak of subdivisions how many subdivisions have you?

A I think I said we had 30 divisions approximately.

BY MR. SINCLAIR:

Q Thirty-two.

A Thirty-two. The major maintenance points would be one at each division, and there would be a secondary steam maintenance points which would be the roundhouse like at Red Deer or Fort MacLeod.

Q What about Chapleau and Schreiber?

A In the steam days the maintenance point at Chapleau was for most of the power in that territory, but there was a secondary maintenance point at Schreiber.

J.M.Traine

The Cartier and White River were turn around maintenance points. They did some maintenance but they did not maintain the engine.

BY MR. SINCLAIR:

Q Would it be correct to say, Mr. Fraine, that each division had -- oh, maybe two and up to four or five subdivisions under the superintendent?

A Yes, and some more than that, but generally speaking -- perhaps this might clarify it a little bit -- there was a roundhouse at practically every terminal at the end of each subdivision. Some of those roundhouses were maintenance points where the maintenance of locomotives was performed and the others were turn-around maintenance points where only work was done on the locomotive sufficient to take it back to where it belonged.

Q Now, Mr. Fraine, please tell the Commission what is the crew on a passenger train?

A The crew on a conventional passenger train is an engineer, an engineman, a fireman, a train baggage man -- if there is a working baggage car -- a head trainman, a rear trainman and a conductor.

Q Now where do these people --

A Excuse me, Mr. Sinclair, but I was not quite through. There is a ^{clarification} ~~clarification~~ to that -- that under seven cars on a passenger train, if there is a working baggage car, we can operate with a baggage man and one trainman and a conductor.

Q Where do these members of the crew ride or work?

A The engine crew is the engineman and the fireman.

Q They are on the locomotive, are they?

A They are on the locomotive, yes, in the cab of the locomotive. The baggage man rides in the baggage car and the conductor and the trainman ride in the passenger equipment.

Q What is the crew on a freight train?

A The crew on a freight train is again from the head end -- an engineman, a head trainman and a fireman, all of whom ride in the cab of the locomotive.

Q Yes?

A The train is in charge of the conductor and there is a rear trainman who rides in the caboose.

Q And where does the conductor ride?

A Well, usually and for much of his time he is in the caboose but he does not necessarily have to be there. He is in the locomotive cab on occasions, when whatever he may have to do requires him to be there.

Q Now, Mr. Fraine, we have heard from time to time since these proceedings started about the examination books that the train service employees ride.

THE CHAIRMAN: You mean "write".

MR. SINCLAIR: I am sorry, yes, I mean "write". Pardon me, Mr. Reporter.

I would like to introduce Exhibit 104.

THE CHAIRMAN: What is 104?

MR. SINCLAIR: Exhibit 104 is what is

known as the "B" book and it says on it that it is an "Examination of trainmen, train baggage men, firemen, yardmen, and switch tenders in Uniform Code of Operating Rules."

EXHIBIT No. 104 -- "B" Book,
examination of
trainmen,
train baggage
men, firemen,
yardmen, and
switch tenders
in Uniform Code
of Operating
Rules.

MR. SINCLAIR: I do not think there is any controversy about this at all, sir, because they are well known.

THE CHAIRMAN: These people apparently write the same examination?

MR. SINCLAIR: Yes, all the people mentioned there write the same examination, and you will see, for instance, on page 1 of Exhibit 104 the heading, "General Notice" which you will find in Exhibit 27, and "General Rules", which is another major heading which you will find in Exhibit 27, and then those rules are numbered A, B, C, and so on, and they correspond to the questions that deal with those rules; so that with Exhibit 27 and this examination book you can see exactly what kind of questions the employees write.

HON. MR. McLAURIN: And they never change the questions, eh?

MR. SINCLAIR: No, we never change

the questions, sir. The book was revised, of course, when the Uniform Code came in in 1951.

HON. MR. McLAURIN: You just change the answers, do you?

MR. SINCLAIR: Well, the answers should not change, sir, let us put it that way.

MR. LEWIS: That is an offence.

THE CHAIRMAN: But the idea, of course, is to have the students pass.

BY MR. SINCLAIR:

Q I think they have the book with them, haven't they, when they write the examination, Mr. Fraine?

A With regard to the "B" book it is usual to give the book and the rule book --

Q You mean Exhibit 104 and Exhibit 27?

A That is right.

Q They are given to the employee?

A Yes.

Q And he has a copy of Exhibit 27 with him when he answers these questions?

A Yes.

Q And does he later have an oral examination on Exhibit 27?

A Yes sir, and that is where the questions are changed.

HON. MR. MARTINEAU: If an employee cannot read he cannot pass if he has the book.

BY THE CHAIRMAN:

Q I was going to ask you, Mr. Fraine, if a man

is given Exhibit 104 and the red book, Exhibit 27, when does he answer the questions in Exhibit 104? Does he take it home and do it whenever he likes or is it done at some set place?

A The practice varies a little bit, sir. I think in some places they allow him to take it home and in other places they provide a special place where he writes it, but the usual routine is that after he has written the book and it is corrected, the officer who is employing him goes through the book and corrects it.

BY MR. SINCLAIR:

Q With the employee there?

A No, not necessarily, but then he will subsequently have the employee in -- or the prospective employee in -- and go through some of the more salient features of it and of course any mistakes he has made and give him a general little briefing, as it were, and he is then issued a certificate and in most places is instructed that the next time the rules examiner is in the territory that he should go in and take the rule instruction that is available and the rule examiner will then give him an oral examination.

Q Now, Mr. Fraine, we have also heard about the "A" book and I would like to file that.

THE CHAIRMAN: Exhibit 105.

EXHIBIT No. 105 -- "A" book,
examination of
conductors,
enginemen,
train
dispatchers,
yardmasters,
yard foremen,
snow plough
foremen and
such other
employees as
the railway
may direct in
Uniform Code
of Operating
Rules.

BY MR. SINCLAIR:

- Q Exhibit 105 is the "A" book, the examination of conductors, enginemen, train dispatchers, yardmasters, yard foremen, snow plough foremen and such other employees as the railway may direct in Uniform Code of Operating Rules. How is this examination written, Mr. Fraine?
- A Well, again there may be some slight variations but it should be written without the --
- Q Uniform Code?
- A -- without the benefit of Exhibit 27, but there may be instances where an engineman or a conductor is allowed to use the exhibit but on the completion of this book he is subject to a rigorous and comprehensive oral examination and, of course, if he fails to pass the oral examination, then he is not promoted until he is able to.
- Q And once these examination books are written, being exhibits 104 and 105, and after the

employees have had their orals, what check is made as to the continued knowledge of the employees as to the operating rules?

A Well, of course, the local officers are continually on the lookout for it and each man is required to present himself for oral re-examinations at three-year intervals.

BY THE CHAIRMAN:

Q That is in case -- if he has onl passed the "B" he tries the "B"; if he has passed the "B" and the "A" then he is tested on the "A"?

A Yes sir.

BY MR. SINCLAIR:

Q Is there anything more you wish to say about that?

A No, I think they speak pretty well for themselves unless there is some question.

Q Mr. Fraine, you have prepared a statement which is entitled, "Canadian Pacific Railway Comparison of Duties in Freight Service, Firemen and Head Trainmen on the Road, Steam and Diesel" which I would like to file as Exhibit 106.

THE CHAIRMAN: Exhibit 106.

EXHIBIT No. 106 -- Canadian Pacific comparison of duties in freight service, firemen and head trainmen, on the road steam and diesel

MR. SINCLAIR: I wish to spend quite a

few minutes dealing with this exhibit, Mr. Chairman, and I have a bit of flu, so I wonder if I could have a five-minute recess?

THE CHAIRMAN: Surely.

--- Recess.

J. N. FRAINE, recalled

EXAMINED BY MR. SINCLAIR:

Q Looking at Exhibit 106, Mr. Fraine, will you just comment on that, dealing first with the fireman on steam power?

A The fireman on steam power, it will be noticed that the Items 1 to 6, that is to maintain steam pressure, insure an adequate supply of water in the boiler, replenish water and fuel supplies on route, clean fires on route as necessary, clean ashpan on route as necessary and maintain cab deck in a tidy condition, where all associated with the generation of power. That was his principal function. When you contrast those with the duties on a diesel locomotive it will be seen --

Q That is as set out below under the heading of "Diesel". You are keeping the same numbers, I notice?

A That is right.

Q You say?

A Items 1 to 6 are no longer applicable in the work of a fireman on a diesel locomotive. He is not required for the generation of power.

BY HON. MR. McLAURIN:

Q Is not No. 6 applicable?

A No sir. There is nothing in the cab deck

to make them dirty on a diesel locomotive except the crew themselves and most of them are reasonably tidy people.

BY MR. SINCLAIR:

Q What did No. 6 cover in steam?

A Well, it covered keeping the coal on a hand-fired locomotive swept back or shovelled back toward the shovelling plate, and included wetting the cab deck down with the squirt hose so that the cab would not be full of dust as the engine moved along. None of those conditions are present with diesel locomotives because of the fact the cab is isolated from the power compartment and there is nothing in it to make any dirt or dust or anything of that nature.

Q Mr. Fraine, you were saying that Nos. 1 to 6 in steam are associated with the generation of power which was the fireman's job, and on the diesel you say they are no longer applicable. Who is responsible for the generation of power on a diesel?

A Well, the generation of power on a diesel locomotive is accomplished automatically. The diesel engine is automatically supplied with fuel and the operation of that engine which is direct connected to a generator, produces electricity and the electricity produced by the generator is transmitted

to the traction motors which are located on the axles and drive the axles, so that the generation of power is accomplished automatically and controlled by the engine-man through his throttle.

Q Who is responsible for the generation of power machinery; who is responsible for that?

A Well, that is the responsibility of the maintenance force, to maintain the machinery within the unit so that it will function as it is intended to function.

Q Take the next, No. 7, under steam, to assist the engineman. What is your comment on that, taking steam first?

A Well, on steam locomotives the fireman was of course assisting the engineman in performing his primary function. In addition to that he was working under the jurisdiction of the engineman and as a consequence he would assist him in any effort that the engineman directed him to do. For example, on some of the older steam locomotives the reverse lever was difficult to move and on occasion the engineman would ask the fireman to give him a hand to move it.

Q What about repairs on steam locomotives; did they or did they not make repairs on route?

A Emergent repairs on the road were made by

the engineman when they were such that he could make them. Perhaps changing a water glass, and occasionally there are things on a steam engine related to the airbrake system where an engineman could blind-joint a leaking pipe or something of that kind and limp himself out of the road. To the extent that looking after his boiler would allow it, the fireman would render assistance.

Q Under diesel I notice No. 7 is still there, that is to assist the engineman. What does a fireman do to assist the engineman on a diesel?

A Well, the occasions that he would assist an engineman would be very rare insofar as emergent repairs are concerned because the engineman himself is not expected to make emergent repairs either to the diesel engine or to any of the electrical apparatus. The maintenance or repair of that equipment is the function of skilled craftsmen, either mechanics or electricians, and it requires special tools to perform the work. The engineman is only provided with a monkey-wrench, a hammer and a chisel which enables him to perhaps make some repairs under certain circumstances to the airbrake and the related piping, change hose bags on the unit if required. He may under certain circumstances be able to effect repairs to the draft gear, temporary repairs

to the draft gear or running gear, but not the locomotive itself. So if he is not required to do it, the amount that a fireman could do in assisting him is very limited.

Q In your opinion, under the heading "Assist the engineman" is there enough work to justify a helper to the engineman?

A No sir.



Q What other work might the fireman do on a diesel that could be included under the heading "Assist the engineman"? Is there any other work he might do?

A Yes, he might assist the engineman in the resetting of protective devices.

Q Now, Mr. Fraine, protective devices, just what do you mean by that? What are they and what do they do?

A Essentially the protective devices are devices that the manufacturer has applied to the locomotive to prevent it from damaging itself if fault develops within either the engine or the electrical equipment.

Q What protective devices are there basically on these diesel locomotives?

A Well, the diesel locomotive has three protective devices which protect the engine portion of the unit.

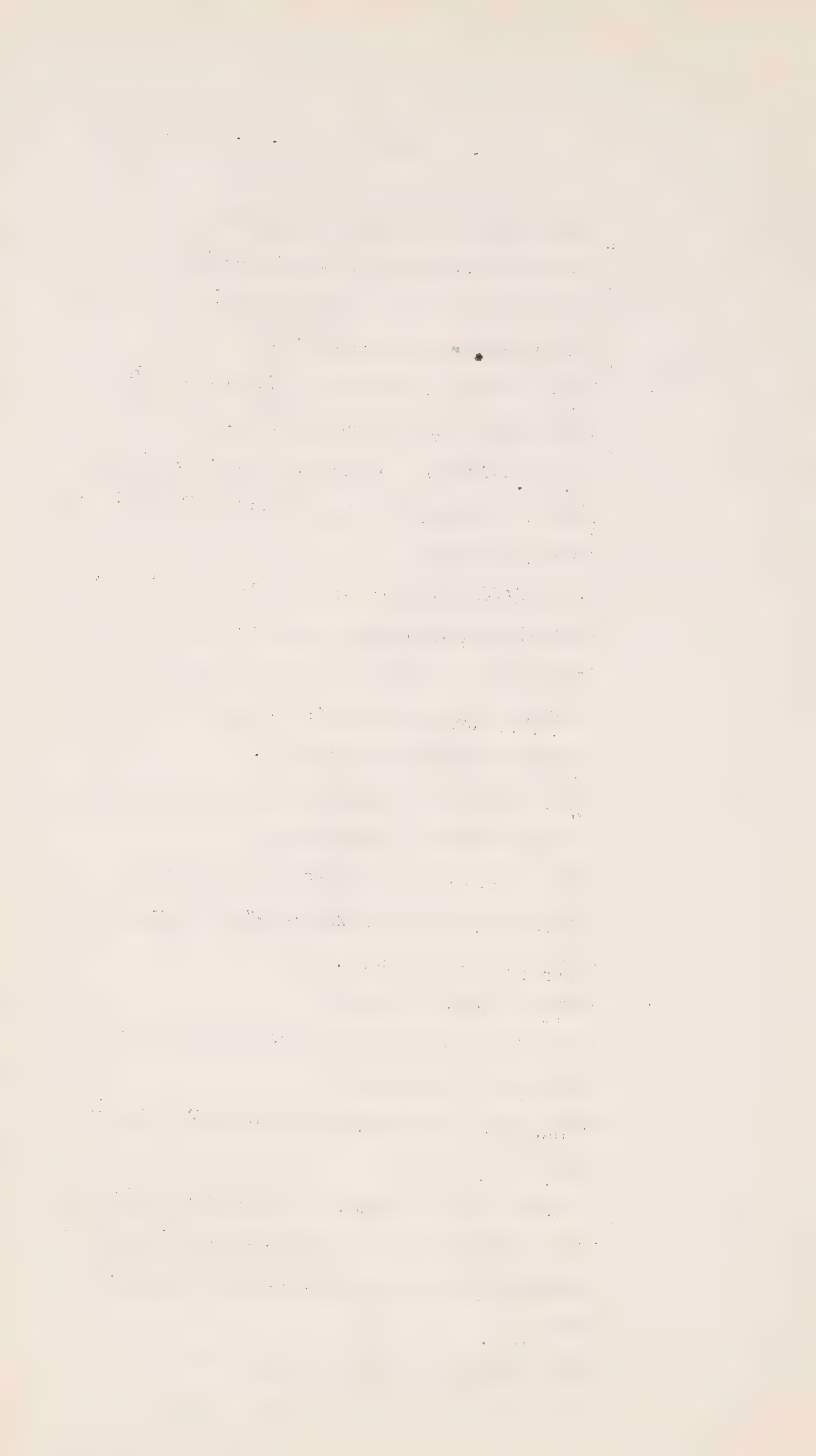
Q Three of them, you say?

A Yes, and it has one which protects the electrical apparatus.

Q What would the three be that protect the engine?

A The hot engine alarm is a means of protecting the engine when the cooling water reaches a temperature in excess of a certain prescribed limit.

Q What happens when that occurs?



A Well, on an Alco locomotive the engine is returned to idle, in which case --

BY THE CHAIRMAN:

Q I am sorry, the engine what?

A Returns to idle.

Q What do you mean by that?

A It ceases to produce power and it just idles. The fuel is shut off and it cuts back so it just idles. The fuel is not completely shut off but it is shut down to a limit that will only allow it to idle.

Q I interrupted you but I wanted to be able to follow. Would you complete your answer.

BY MR. SINCLAIR:

Q You said that happens on an Alco.

A On the other units there is merely an alarm. A light goes on and a bell rings to direct the attention of the engineer to the fact that the protective device -- that is, the protective device is an alerting of the engineman.

Q Does it or does it not return the engine to idle?

A No, it continues to operate.

Q That is one of the three that you say are there to protect the engine. What is the second one?

A The second one is the low lube alarm or low lube protective device. In that case again --

Q What does that mean, low lube?

A It means that the engine is being starved for lubricating oil and because of that it shuts down. That also rings a bell and lights a light.

Q That is two.

BY HON. MR. MARTINEAU:

Q The power is not shut off?

A Yes sir, the power is shut off.

BY THE CHAIRMAN:

Q There are no exceptions to that in all makes?

A So far as I know, sir. You might liken it to your automobile. If you were short of oil in your automobile you would not want to be turning it over.

Q No, no. There is a distinction in the case of the hot engine alarm as between the Alco and other makes?

A Yes sir.

Q But in this low lube alarm they function all the same?

A As I understand it, yes sir.

BY MR. SINCLAIR:

Q That is two protective devices to protect the engine, the hot engine and the low lube. You said there were three. There is one left. What is it?

A Engine over-speed. That is a device which prevents the engine from operating at a speed in excess of that for which it is designed.

That speed varies between various types of units but the device is set so that if the engine for some reason attempts to exceed that speed the device is actuated. A bell rings and there is a light illuminated and the engine shuts down.

Q On all makes does the engine shut down or does it not?

A I am not sure of that. In some it may shut down and in others it may return to idle.

Q I am instructed by my mechanical advisers that on all makes the engine shuts down.

MR. MUNDELL: By "shut down" you mean that it stops?

MR. SINCLAIR: Goes off automatically.

BY MR. SINCLAIR:

Q Now, those are the three you had in mind for the protection of the engine?

A Yes sir.

Q Then you said there was one that protected the electrical apparatus. What is that one?

A That is a ground relay.

Q What does it do? What is it and what does it do?

A It is a relay and it again is accompanied with an alarm.

BY THE CHAIRMAN:

Q A bell?

A A bell and a light, as I understand it, sir.

Q Would you just use the same language to describe the same thing. This may be important. I assume it is. That is why it is being given to us, but if you tell us there is a light and a bell in one case and in the next case say there is an alarm that does not mean the same thing to me.

A I see, sir. My knowledge of this is limited to knowing what they do. I am not mechanically inclined. I depend on my mechanical officers for information of this kind.

Q Yes, we are going to have that.

A The effect of this relay is that when there is a ground occurring in the electrical equipment the relay is actuated and cuts off the power.

BY MR. SINCLAIR:

Q Does the engine stop or does it go to idle?

A I think the engine goes to idle.

Q What causes a ground, Mr. Fraine? Not technically but just generally, what causes a ground?

A Well, I think perhaps the most frequent cause of the ground relay operating is flashovers.

HON. MR. MARTINEAU: What is that?

MR. SINCLAIR: A flashover -- I do not think there is any controversy about this --

THE WITNESS: In layman's language

it would be a short circuit.

THE CHAIRMAN: I did not hear that.

MR. SINCLAIR: Like a short circuit, a sudden surge of power and a flashover.

BY MR. SINCLAIR:

Q You say that is the most common. Is there any other cause?

A Well, a breakdown in the insulation would cause it.

Q That is the insulation of the wires?

A Yes, anything that would cause the electricity flowing through any of the insulated wires to be grounded to the frame of the locomotive.

Q And if that happened you say this protective device would apply and the engine would come to what?

A To idle, as I understand it.

Q Now, Mr. Fraine, before I asked you these questions we were dealing with "assist the engineman" and you said that the fireman sometimes could assist the engineman in dealing with the protective devices. Is that right?

A Yes sir, that is right.

Q How would he assist him in that way?

A Well, in two ways. If he is sufficiently knowledgeable he might himself be able to restore the protective devices on being directed to do so by the engineman. The other circumstance, he might go and then come back and report to the engineman just what

the situation was, and that is, of course, predicated on him being on a car body type of locomotive.

Q On a road switcher?

A Well, on a road switcher he would have to stop or get to a very low speed to get to the trailing units.

Q Mr. Fraine, are these protective devices on each unit of a diesel locomotive? Say there were three units; would there be engine protective devices on each unit?

A Yes sir.

BY THE CHAIRMAN:

Q In connection with restoring the protective devices if told to do so by the engineman, you said that would be limited to the "A" unit car body type because in the case of a road switcher he would have to reduce to a slow speed. All these protective devices bring about that very result, do they not?

A Not in all cases, sir. What I had reference to was that to clamber between these road switchers in motion is not a very safe thing to do and we do not expect the men to do it. But there are many occasions when a consist of two road switchers, for instance, and the rear unit cuts out, where the train could continue for miles depending on the grade and the tonnage of the train and so on.

Q I was forgetting about the multiple unit.

A Yes sir.

BY MR. SINCLAIR:

Q Even on a single unit, Mr. Fraine, say that one of these protective devices applied, where do you have to go to reset^{it}/on a road switcher?

A The devices which protect the engine are located on the engine. You would have to get out on the running board and open up the appropriate side doors.

MR. SINCLAIR: Looking at Exhibit 97, Mr. Chairman, you can see those doors on the side of the locomotive that would have to be opened.

BY MR. SINCLAIR:

Q What do you say about the practice of opening those doors when in motion, Mr. Fraine?

A I do not think it should be done. We do not ask them to do it.

Q Why?

A Well, on a moving engine that is not the best place to be riding, particularly trying to open a door which would be subject perhaps to being blown out of the man's hand by the wind and where he might step back and perhaps get under that railing. I don't know -- there are so many things that could happen to a man there that I just do not think it should be done. We do not expect it to be done.

Q On an "A" unit such as Exhibit 101, why

is it different there?

A Well, the car body type of unit provides a means of access within the unit so the man can get back through either "A" or "B".

BY THE CHAIRMAN:

Q There is a corridor down the side?

A Yes sir.

Q If you did not have the fireman who would reset these devices?

A The engineman, sir. He is the man who is responsible. He would stop his train and reset them.

BY MR. SINCLAIR:

Q Mr. Fraine, if you had a two or three or four unit consist in a diesel locomotive and a protective device applied in the second, third or fourth unit how would the engineman know it had applied?

A Well, if he was on a level track it might not bother him very much but if he is on a grade he would immediately notice it on the load meter right in front of him.

Q Does this light or bell flash or ring in front of him if it takes place on the fourth unit?

A Yes sir.

Q The alarm light or the bell, he can hear it or see it if it is on the fourth unit and he is on the first unit?

A I don't know whether he can hear the bell or not. I have never had any experience of that kind but I know that the light goes on.

BY MR. MUNDELL:

Q In the lead unit?

A In the lead unit.

MR. SINCLAIR: I am instructed by my mechanical adviser that the bell rings too.

THE WITNESS: I have only had one occasion. I did not hear the bell.

BY THE CHAIRMAN:

Q I suppose in the case of a multiple unit, if one of them goes out of action as you are going up a mountain or something the train might be able to carry on with the units that are left?

A Yes sir, on many subdivisions you could go quite a ways but your speed might be reduced somewhat. It would depend if your train was a full tonnage train or just partly loaded, but I think in many instances the train could continue.

100

100

100

100

100

100

100

BY MR. SINCLAIR:

Q Now, the next duty that you have listed, first under "steam", the fireman maintain a forward lookout when possible. I note that that is carried down under diesel for the fireman. Now, what is your comment on that, dealing first with steam?

A Well, on a steam locomotive the ability of the fireman to maintain a forward lookout on a hand-fired locomotive was almost impossible. He could keep some sort of sporadic lookout but he certainly could not maintain a lookout. To a degree he could not maintain a lookout on a stoker locomotive because he is watching the gauge inside the cab, is watching his water and stoker jets, and he is into the firebox with a poker, and things of that kind, although there would be less interference on a stoker locomotive than on a hand-fired.

Q What about an oil burner?

A On an oil burner, well, he would be up closer to being able to keep a lookout on an oil burner, although there is the requirement that he has to get down to put sand through an opening provided in the firebox door for the purpose.

Q Does he have water to watch?

A He is watching his water and his steam and his oil valve; he is adjusting that from time to time in accordance with the steam demand.

Q On the diesel?

A Well, the only time that he would not be able to maintain a forward lookout on a diesel would be under circumstances where the engineer had directed him to patrol carbody type units for the purpose of perhaps looking at the units or to reset a protective device.

Q Now, Mr. Fraine, the next one is "comply with timetable;" that is, No.9, train orders, "signal indications, special instructions and the uniform code of operating rules," and that duty is also carried on for the fireman on the diesel?

A Yes, that is unchanged.

Q I think that pretty much speaks for itself, Mr.Chairman, and members of the Commission.
No.10, Mr.Fraine.

A Well, on No.10 --

Q Steam first.

A On the steam locomotive, the fireman was not able to maintain a constant running inspection to the extent that he is able to on a diesel locomotive.. His duties in the generation of steam require his attention mostly in the cab and he was able to look back from time to time.

Q I am sorry I was getting some extra copies for my friends' advisers. What about the diesel?

A Well, on the diesel locomotive, except if he

is directed by the engineman to enter the engine room, he has nothing else to do but look forward and maintain a running inspection; that is all he has to do.

Q All right, Mr. Fraire; now, going over to head trainman, taking first steam, and then diesel. Would you just run through the head trainman's duties?

A The head trainman's duties on steam locomotive in freight service were first to maintain forward lookout. You have to comply with timetable train orders, signal indications, special instructions and the uniform code of operating rules; three, provide ^{F199}~~block~~ protection for the head end of train when required; four, maintain a running inspection on his own train and where possible of passing trains; five, assist balance of train crew with standing train inspection and, six, assist balance of train crew to perform switching where required.

Q Now, under diesel, am I correct that these duties are repeated; the head trainman's duties as you read them for steam are also set forth on the diesel. Is that right?

A That is correct, there is no change.

Q I beg your pardon?

A There is no change.

Q Is it your evidence that there has been no change in the head trainman's duties between steam and

diesel?

A That is right.

Q In your opinion, is there any significance in the order of those duties as they are set out in Exhibit 106?

A Well, yes, there is. If you will compare with a steam locomotive, the fireman and head trainman, items 8, 9 and 10, for the fireman are a secondary duty in so far as he is concerned, and they are a primary duty for the head trainman in steam service. Now, if you will look at diesel you can see that the remaining duties of the fireman, that is items 8, 9 and 10 are a duplication of a portion of the duties which have always been a part of the head trainman's function.

Q Now, Mr. Fraire, we dealt rather fully with generation of power, the fireman on generation of power and also with the fireman assisting the engineman. I would like to deal with this question of lookout where there is a duplication of duties, as you have just mentioned it, where the fireman, as you say, has the same duties as a part of the trainman. Just deal with that and let the Commission have your comments on it. First, before I do that, Mr. Fraire, maybe I should ask you this general question. Is the lookout that is required the same as the lookout that

would be required if you were part of the operating crew of a steamship, a motor vehicle, an aeroplane or any other mode of transport that you can think of.

A No; there is a considerable difference in the type of lookout. The train is guided by the rails; it does not have to be steered. In addition to that, it is not operating on the limitation of vision to the extent that a steamship, a vessel, an aircraft or a highway vehicle is.

Q What about a streetcar?

A Well, a streetcar is the same as any other vehicle that was on the highway; it is steered all right, but --

Q It is not steered.

A Not steered; I was going to say it was steered by the rails the same as a train is, but a streetcar is, in most instances, contending with every other vehicle that is on the highway, on the road that it is operating on, and to that extent it is different.

Q From the train?

A From the train, yes.

Q When you are on an engine with an engine crew -- you have here the fireman and the trainman, with the duty to look out. What are you looking for?

A Well, there are a number of things that you

look for. You look for signals, such as block signals, fixed signals, I am speaking of, the block signals, train order signals, yard limit signs; you look out for flags, that is, the flagman, or in cases where it is not manual flagging, flags, the flags may be either as the result of a preceding train or maintenance of way forces ~~required~~ ^{in many} on track or bridge structures.

Q Anything else.

A Well, you look for track defects up to the extent that it is possible, track obstructions.

Q BY THE CHAIRMAN:

Q Explain the train order signals and block signals.

A A train order signal is the signal that is used at a station where the operator or agent is employed for the purpose of transmitting orders to trains. The signal has three positions, proceed, which is with the board vertical and the light green; it has another position with the light yellow and the board at an angle of 45 degrees; and it has a third position at stop with the board horizontal and the light red, and that signal must be displayed immediately that the train dispatcher indicates to the operator that he has a copy for the train. He immediately displays that signal at either "caution" or "stop".

Q I am speaking from memory, but the block signal

looks just the same.

A Yes, somewhat similar in appearance, yes.

Q The only difference is that you find the train order signals at the station.

A Yes, and it is manually operated; there is a lever in the station and the operator operates it.

BY MR. MUNDELL:

Q What does "caution" mean on a train order signal at a 45 degree angle?

A It indicates the delivery of an order which is not going to require the train to be stopped.

BY MR. SINCLAIR:

Q How do they give it to the engine?

A Passes it up on a hoop. The order is fastened to a hoop, and the hoop is held up and the trainman gets his arm out and catches the hoop, removes the order and the hoop is thrown back to the platform.

Q What is the reaction of the engineman when he sees these various things that you have just recited? "Stop", of course, I understand. What about the others?

A Well, he would control the train in accordance with whatever the condition ahead of him was.

Q Yes?

A For instance, block signals, he knows there are approximately two and a half miles to operate. Running over the territory he knows

where they are. He is quite familiar with the road; he knows where they are and so do the other members of the crew. And if he gets a green block signal he knows that the track to the next block signal is in order for track speed unless, of course, he is flagged by a maintenance of way force, at least be on the lookout for obstructions that might be on the track, but they are not a frequent thing.

Q Say he gets a yellow block signal?

A Well, he would reduce the speed of the train and approach the succeeding signal prepared to stop. In all cases he gets a warning of a stop signal unless something defective occurs immediately after he passes the signal.

Q Yes. And you say that normally on a block signal system you would get a yellow before you would get a red?

A Yes, that is right. In some cases he would get two yellows before he gets a red. It depends on the braking distance.

BY THE CHAIRMAN:

Q On what?

A The braking distance. There are some places where signals are located closer than two and a half miles and to provide braking distance they have to have two yellows before the red.

BY MR. SINCLAIR:

Q These block signals or fixed signals you have been talking about, on what side of the track are they located?

A On the right-hand side, generally speaking. I know of one territory where the operation is to the left and in that case the signals are on the ^{left}~~right~~.

Q When you say the operation is to the left, what do you mean?

A The trains are on the left-hand track. That

is, the track runs east and west, and the westward trains operate on the south track.

Q And that would put the engineman on what side?

A On the north side, adjacent to the eastward tracks, and there is no space between the two tracks to put the signals so that the signals are located on the other side outside of the tracks.

Q How high are they?

A Well, they are sufficiently high and they are so located that the engineman can see them from his side.

Q And train order signals, what side are they on?

BY THE CHAIRMAN:

Q Before we pass on to that -- you have just been talking about a double track?

A Yes.

Q Take a single track. Would you say they are on the right or left side or on one side, because if the man is going one way they are on the right and if he is going the other way they are on the left?

A They are on the right-hand side, sir, in the direction in which they apply. On single tracks they are usually opposite to each other. The one on the right-hand side would govern westward and the one on the left-hand side as you are going westward would be on the right-hand side when you are coming east.

Q Oh, I did not understand that block signals are in pairs. Are they? Is one on each side of the track?

A Usually.

Q Well, that was not clear.

A Well, I am sorry, sir.

MR. SINCLAIR: I am sorry, sir, too. I was coming to that point. There is no controversy here.

THE CHAIRMAN: No, there isn't. It is just a matter of understanding.

BY MR. SINCLAIR:

Q Mr. Fraine, when the signals are placed what consideration determines the placement of the signals?

A They are placed after study so that they can be in the view of the engineman of an approaching train.

Q And on all block signal territory are there separate signals determining and controlling each direction?

A Yes sir.

Q Pardon?

A Yes sir.

BY THE CHAIRMAN:

Q Well, on a single track, you come to a place where there is a pair of block signals, one on each side?

A Yes sir.

Q And if I am driving an engine and I am on the right-hand side of that track, the block signal on the right-hand side of that track is the one for me?

A Yes sir.

Q Well, just a minute now. Does the one on the left-hand side of the track exhibit the same colour of light at the same time as the one on the right-hand side?

A It could. The one on the left-hand side as you approach it would invariably be red.

BY MR. SINCLAIR:

Q Could you see it?

A No, you cannot see it.

Q Why? Is there a reflector that shines the light in the direction it is supposed to be seen?

A The target is black on the left-hand side to a westward train as the light is indicated here --

BY MR. MUNDELL:

Q Exhibit 27?

A Yes, on page -- I had better get a green one.

BY MR. SINCLAIR:

Q Page 134?

A Page 138. The westward train would get the green signal. The signal on the left-hand side of the track governing the movements in the eastward direction would show black. It is just a black disc and it is on the other side

of the signal mast.

BY THE CHAIRMAN:

Q Now let us consider a double track. What is the comparable situation?

A Well, it is not exactly comparable, sir, on double track. In most instances on the Canadian Pacific we only signal to provide for following movements for each track so that the signals are located to the right-hand side in the direction of motion with the exception of the double track between West Fort William and a point just west of Molson, Manitoba, where the trains operate to the left. In that territory the westward signals are located south of the westward track, which is the south track, and the eastward signals are located north of the north track which is the eastward track, so that they are actually --

Q But on what side -- or on whose side -- would those signals be?

A They would be on the fireman's side or the left-hand side of the approaching locomotive in each direction.

Q That is to say, if I am driving an engine from West Fort William to Molson on double track I travel on the north or the south track?

A You would be on the south track and you would be riding on the north side of the engine and the signal would be on the fireman's side on the

south side of the south track, the left-hand side of the approaching train.

Q I see. And that would be the signal for that track?

A Yes sir.

Q And the traffic is all one way on that track?

A Yes sir, except for

Q And what is the reason for putting the signal on the south side of that track?

A The tracks are laid at 14 feet centres so that if the signal were placed in the centre of the track between the eastward and westward main tracks, that spacing of the tracks would have to be extended to probably 18 or 20 feet which would involve a terrific expense.

There is another method which is now available. At the time those signals were put in this new device was not in use but we now frequently cantilever the signal over to put it over on the engineman's side and there are cases like that particularly around terminals where we have put a bridge across a track at an elevation and mount the signal aspects on it, or in other cases we put the mast over on the lefthand side and a cantilever over so that the light is on the engineman's side.

Q How far is it from West Fort William to Molson

A Offhand I would say it is about 400 miles, sir. It is 300 and -- not quite 400, sir.

BY MR. SINCLAIR:

Q When the signals were placed were their locations and height picked having any relation to the view of the engineman?

A Oh yes, they are all placed that way.

BY THE CHAIRMAN:

Q How long have they been placed that way?

A Oh, I could not tell you offhand. They are station protection signals, that is, one at each station in each direction.

BY MR. SINCLAIR:

Q They are not the normal type of block signals, are they? They are not located every two and a half miles all through there, are they?

A No.

Q Where are the block signals put on double track, generally speaking, in that territory? You said something about station protection. Is that where they generally are?

A Yes. On double track if you have an automatic block **signal** system it provides a station protection system.

Q I thought you were talking about the 400 miles, and if I am going west all the signals are on the south side of the track?

A Perhaps I did not make that clear. There are station protection signals and they are on the lefthand side. They are not as frequent as block signals.

Q Where are the block signals?

A There are only a few locations within that area that have block signals and where they have them

they are on the lefthand side.

Q Then all the signals, block or station, are on the lefthand side?

A Yes, station protection --

Q What is the difference between a block signal and a station protection signal?

A In some places we have had in the past and we still have station protection signals where needed. They are erected where there is no block signal, in effect over a subdivision. The usual practice in applying them was to put them at stations where trains might stop for coal or water or to do switching, so that it provided some kind of an automatic protection behind the train against a following train. It was to expedite movement so that the train would not have to flag.

Q And those were at busy stations?

A Well, on a territory that is protected by automatic ~~flag~~ block signal systems where you want to make a station protection signal it is one of the block signals, the only essential difference is that the S.P.S. signal, or the station protection signal, has the letters S.P.S. on it so that the crews can identify it as a station protection signal. That is outlined on page 130 in Exhibit 27.

J.N.Frairie

q BY THE CHAIRMAN:

Q I was asking you some time ago approximately how long that area from West Fort William to Molson had the signals so placed?

A At least thirty years.

BY HON.MR.MARTINEAU:

Q What was the idea of running trains on the wrong track?

A That is because of grade conditions, sir. The tonnage situation and the grade condition eastward is easier on the north track and that was the direction of the tonnage. That is the funnel or the pipe line through which the grain moves to Fort William.

Q But why was it easier?

A Well, there are places there where the two tracks are not on the same road bed. There are diversions where the one track goes out around and has more distance in it so that to get from point "A" to "B" it travels a greater distance so that it negotiates the lesser grade.

BY MR. SINCLAIR:

Q Were the two tracks built at the same time?

A No sir.

Q And when the second track was built, which track was it?

A That again varied. In some cases

J.W.Fraire

they built the eastward track, or what is now the eastward track, as the second track, and in some cases they built the second track westward.

Q And did they join the two parts together in such a way that they got the best possible ^{grade} ~~protection~~ in each direction?

A Eastward.

Q And they established that as which of the tracks, north or south?

A The north track.

Q And that is the only major move we have in the Canadian Pacific, or is it not, on lefthand operations, so-called?

A It is the only one I can think of at the moment.

BY THE CHAIRMAN:

Q How much of the distance between West Fort William and Molson is protected by automatic block signals?

MR. SINCLAIR: We could check that.

THE WITNESS: On the Kaministiquia
subdivision there is ^{an} automatic block signal system between Mileage 56.2 and block end sign at Mileage 0.3, so that would be roughly 56 miles.

THE CHAIRMAN: I think we could adjourn at this point.

--- The Commission adjourned at 12.30 p.m.
until 2.00 p.m.

Thursday,

March 28, 1957

AFTERNOON SESSION

--- The Commission resumed at 2.00 p.m.

J. N. FRAINE, recalled,

EXAMINED BY MR. SINCLAIR:

- Q. Mr. Fraine, just before lunch we were discussing the look-out by the train man and fireman and what the requirements were on road movements. Is there anything further you wish to say about the requirements for look-out ahead by the head trainman or fireman?
- A. Well, there are occasions when all members of the head end crew are required to look back.
- Q. But before we come to that let us deal with the look-out ahead. If you have finished with the look-out ahead, the Chairman asked you how many miles of block signals there would be where the company has a left-hand operation, that is between west Fort William and Molson. Did you check on that?
- A. Yes sir. There are 131 miles on the eastward track of automatic block signals, and approximately 31 miles on the westward track between those points.
- Q. Where are those signals placed? Why is it not over the whole 400-odd miles?
- A. They are located adjacent to terminals, and on stretches of territory where there is a

J.N. Fraine

down grade in the direction of motion.

Q. Turning to the requirement, as you say, where members of the head end crew have to look back. Will you tell us generally what they are looking for when they look back on the movement?

A. They are required to perform a running inspection of the train as it moves along the road. The engineer performs a running inspection on his side of the train, the fireman performs a running inspection on his side - those are the right and left - and the head train man performs a running inspection on both sides of the train.

Q. When you say a running inspection, how do they do it, Mr. Fraine?

A. They look back along the train. What they are looking for is any indication of a defect developing with the running gear or draft gear of the train, particularly the running gear. On a tangent track or a straight track, running inspection can be accomplished in a glance in so far as the head end crew are concerned, because about all you could see on a straight track would be if a car were oscillating badly out of line; other than that, you could not see much. It is the usual thing

to do it on a curve, depending on the speed the train is running at, the topography of the country, the degree of curvature and so on - they all have a bearing on it. But usually the man would look back and examine the running gear as far back as he could see.

Q. On a freight train for instance, how many cars could he look back on?

A. Perhaps about 35 or 40 cars, depending again on speed and on the kind of curvature he is on. He might see back 50 cars with some degree of certainty on what he is looking for. There might have been occasions, for instance, on a long open curve at night where one could perhaps examine a whole train which could be 100 cars.

Q. How long would that take?

A. Depending on the speed of the train, it could occupy up to a minute. Usually I think it would be something less than that; but even if a man were looking at the train that length of time, he can look around and orientate himself with a glance ahead, and then continue with the examination of the train if it requires it.

Q. Do each of the head end crew on a freight train -- that is the engine man, fireman and train man -- all perform these running

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J.N. Fraine

inspections
~~instructions~~ in the same way, except that the train man does it on both sides?

- A. Not entirely. The engine man and fireman on all classes of diesel power can perform it without moving from their seat. On the road switcher power the train man can also perform it on the left-hand side without leaving his seat; but to examine the right-hand side of the train he crosses the cab. Of course on a car body A type where he sits in the centre of the cab, he has to leave his seat to examine either side of the train.
- Q. On a road switcher when he is seated in the forward seat, and he is going to make a running inspection on his own side, that would be the left side, with the fireman sitting behind him, how would he do it?
- A. He would do it in two ways. He can open the window beside him and put his head out, or he can look out through the rear cab window over the fireman's shoulder. The fireman does not interfere with him doing that; but, as a matter of fact, when he is looking back, usually the power of suggestion causes the fireman to turn around and look back too, because the other man is looking straight into his face.
- . Now, in the steam days and/or on steam

J-5

J. N. Fraine

engines being run today - take the passenger service - would they make a running inspection on a passenger **train** in steam operation? Would there be any difference?

- A. The engine crew or the head end crew is limited to the engine man and fireman. To perform a running inspection on a passenger train they open their window and look back from the steam engine, one on each side.

BY THE CHAIRMAN:

- Q. Does the head end train man not ride in the cab of a steam engine?
- A. Not on a passenger train.
- Q. On a freight train?
- A. Yes, he rides in the engine.

BY MR. SINCLAIR:

- Q. Mr. Fraine, we have had some evidence that on some of these runs the fireman spends some time down on the deck. How would he do a running inspection, for instance, on a passenger train if he were down on the deck for any substantial period?
- A. He would perform his running inspection to the extent that his fireman's duties would allow him to. If he were on the deck providing the power, that is the principal thing that he is there for, and that is what he has to do; he does

J.N. Fraine

his inspecting if and when he can, aside from his firing; the same thing applies to his look-out.

Q. And on a freight train, on steam, would the same apply?

A. The conditions would be the same, except that he would have a train man on the freight train.

Q. These running inspections require some look-out to the rear. Is there any other reason for looking back, Mr. Fraine?

A. Yes. Leaving the terminals it is the usual practice for the head end crew -- usually the head train man, but the other members are interested too -- to look back to secure what is termed a **highball** which is an **acknowledgment** that the rear end crew have entrained, and they have closed the switch. The same thing occurs if a train leaves a siding. If the topography of the country, the alignment of the railway, and the length of the train allows them to see the end of the train, they will do the same thing; otherwise, they control the speed of the train until it reaches a point that they are sure it is clear, and the time has been sufficient for the rear end crew to get on.

BY THE CHAIRMAN:

Q. Is there a seat for the train man in the cab

J.N. Fraine

of a freight engine?

A. Yes sir.

Q. Where is it?

A. It varies; on most of the power that is now in service it is behind the fireman, right next to the cab door. There is a slide in the cab door that allows him access to the outside. On some of the power the seat is on the same raised portion that the fireman's seat is on, and he sits behind him. They both use the same slide window. On some of the smaller and earlier power the train man's seat was ahead of the fireman, just up alongside the boiler.

BY MR. SINCLAIR:

Q. You are talking about a steam engine?

A. Steam engine.

Q. For instance, an N-2, that is the 3700, of which we have photographs in the record, do you know whether or not this train man's seat is on that class of car?

A. Originally it was alongside the boiler; it may still be there. When they changed the vestibule cab on those large jobs the seats were put opposite the gangway, down behind the fireman.

Q. On T-1 engine, that is the large 5900-class -- I think it is Exhibit 95 --

J-8

J.N. Fraine

where are the seats on that engine?

A. Behind the fireman. You are speaking of P-1?

Q. I said the 5900-class, Exhibit 95, T-1 Class - do you know about that?

A. Yes. He is behind the fireman on that engine.

Q. Another type that is still running on the Canadian Pacific is, I believe, the D-10. There are a large number of them on the Canadian Pacific, with some modification - that is Exhibit 88. Do you know where the relative seats are on that type of engine?

A. Yes; on that one the train man sits ahead of the fireman, just near the forward edge of the cab window.

Q. You have explained where they sit on diesels.

Now Mr. Fraine, I believe you made a number of inspections on road trips in February to give the Commission your actual observations on ten trips. These sheets are headed "Trip Report".

THE CHAIRMAN: Exhibit 107.

EXHIBIT NO. 107: Trip reports.

MR. SINCLAIR: There are ten sheets, and each is signed by Mr. Fraine.

THE WITNESS: I should perhaps say, Mr. Sinclair, that in addition to those items

J.N.Fraire

that I mentioned there is one other occasion when the head train man looks back.

Q. Yes?

A. That is to exchange signals approaching and passing stations, approaching junctions and draw bridges, and places of that kind, as specified in Rule 90.

BY THE CHAIRMAN:

Q. Who looks back?

A. The head train man.

BY MR. SINCLAIR:

Q. Mr. Fraire, do you have a copy of this Exhibit 107 in front of you?

A. Yes sir.

Q. Were you actually on the engines on each of these observations as set out in Exhibit 107?

A. Yes sir.

Q. And the time you were on the engine is specified in your observations, is it?

A. Yes.

Q. Take page 1 of Exhibit 107, ... by the way, how many miles did you cover on these whole ten trips?

A. 1,250 miles, approximately.

Q. What is your comment on page 1 of Exhibit 107?

J-10

J.N. Fraine

A. It was train No. 951 between Smiths Falls and Chalk River; it was a freight train, 65 loads and two empties; 3,322 tons; length of trip 115 miles; elapsed time just under four hours - three hours and fifty-five minutes. I road the cab on the leading unit for the entire trip - that was a two road switcher. There were no alarms of any kind.

Q. Any defects?

A. No. I got on the cab after the engine was on the train in the yard at Smiths Falls, so I did not observe the preparatory duties of the fireman. Throughout the trip the engine man did not request any information or give any instruction to the fireman, in my presence. When we got to Renfrew, and after setting off one car, the fireman made a ^{visual} ~~fuel~~ inspection. He went out on the running board on the left-hand side, and opened a couple of doors; he then went back to the rear unit and did the same thing, and walked around the units on the ground.

Q. How were the signals relayed on the set off of a car at Renfrew, hand signal?

A. They were given directly to the engine man by the head train man.

Q. You did not observe the final inspection,



J.N. Fraine

if any, performed by the fireman?

A. No.

Q. "Additional duties, if any, performed by head train man when fireman out of cab: nil". That speaks for itself?

A. Yes.

Q. "No. of running inspections made by head train man:" You have them recorded, and this is over the entire subdivision of 115 miles?

A. Yes, that is correct. Five from the right side and 22 from the left side.

Q. The next heading: "Average time per inspection".

A. That varied between 15 and 30 seconds on the average. There were several occasions when the head train man looked back for a period up to a minute, but in each case he was watching where he was going by glancing ahead every 15 second or thereabouts. Perhaps I could explain it this way: It depends on the train speed and the curve, and where the train is, but I noticed that he would watch ahead, or he would be looking ahead before he started to make an inspection, and if he was looking back when he approached the point at which it was no longer within his vision, he would glance ahead again, and

J.N.Fraime

then continue with his inspection. To a degree the fireman and engine man did the same thing, as they inspected, they would glance ahead again.

Q. Have you any additional comments?

MR. LEWIS: You missed one heading.

MR. SINCLAIR: "Comments on preparation of Form MP-74." I should state to the Commission that form MP-74 is a motive power form that is carried on the engine, and in due course we will file one of those documents. It is for the recording by the engine man of all irregularities or matters of this kind which he encounters on a trip, and any repair or any other comment he wants to make about the engine.

THE CHAIRMAN: What is the meaning of the words "inspection of both"?

MR. SINCLAIR: I would say that the engine man is saying to the shop staff, "Check over both units".

BY MR. SINCLAIR:

Q. Is that correct Mr. Fraime?

A. In effect what he is saying is "There are no defects that I am aware of; inspect both units", which of course the shop staff does anyway.

BY HON. MR. MARTINEAU:

Q. "Both" refers to the units?

J-3

J.N. Fraine

A. Yes sir.

MR. SINCLAIR: I think, M . Chairman, that was common when they brought in a steam engine; an engine man often used to write in the report to the shop staff "check engine and tender". That was just to make sure that if anything was found out, at least he asked somebody to do it. It was more or less a matter of habit, that they put it in. Some of the engine men have carried that over to the diesels and they put in "make inspection".

BY MR. SINCLAIR:

Q. You see those in a number of forms, do you not, Mr. Fraine?

A. Yes.

Q. Have you anything to say under "Additional comments"?

A. Well there was an incident that occurred.

Q. Will you cover it please?

A. Passing Almonte the conductor got a hoop with two orders on it, and he thought that possibly the head end did not get their copy of the orders, and he applied the air from the rear; the emergency valve brought the train to a stop between the switch and Sheddon, which is the next station west about three miles. The rear train man proceeded ahead on the

run, and the head train man ran back, and they settled the situation. The train was delayed about ten minutes on that account. Those orders provided for train 555, which is a local passenger train, and which was following behind No. 951, to wait at Mayhew until 10.35. The purpose of that order was the despatcher providing some protection to No. 951 for the stop at Renfrew.

Q. Had the head end got the order?

A. Yes, they got the order.

Q Now, again on another matter that is noted there in the last sentence about leaving Sand Point?

A Yes, the trainman after consulting his timetable came over to the engineman's side of the cab and said in effect: We will have to be snappy in making that set-off at Renfrew if we are going to get down there ahead of that 10.35 time.

Q That is Train 555?

A Yes, it was following us.

Q What did the engineman say?

A Well, he agreed, he said he was quite satisfied it could be done.

Q Did you in fact do it?

A Yes, we did.

Q Comfortably?

A Yes.

Q Now, Sheet 2 of Exhibit 107 gives the dates, the train number, class of train, the units, number of cars, tonnage, division, mileage and crew. Now, where did you ride on this one?

A I rode the cab of the leading unit. In that case the 8408 is a road switcher and the 4418 is a B unit marshalled behind.

Q You rode the A unit over the entire trip, is that correct?

A That is correct.

THE CHAIRMAN: Rode what?

MR. SINCLAIR: Pardon me, I said an

A unit. I meant the leading unit.

BY MR. SINCLAIR:

- Q That is correct, you rode the leading unit over the entire trip?
- A That is right, I was in the leading unit.
- Q And I think the next two headings speak for themselves. Will you look at the heading "Details of Duties Performed by Fireman on Route"?
- A Yes. The fireman patrolled the B unit. It was patrolled on three separate occasions without being requested by the engineman nor did he come back and tell the engineman anything about what he had done and seen when he came back into the cab. He patrolled it from 1.32 to 1.36, from 2.22 to 2.30 and from 4.13 to 4.16 and when we stopped at Aylen to meet 974 --
- Q How do you spell that?
- A A-y-l-e-n -- and ~~he~~^{we} cleared No. 2 the fireman again made a patrol through the B unit and around the running board of the road switcher and he was also around on the ground.
- Q What was the engineman doing then, Mr. Fraine?
- A At Aylen?
- Q Yes?
- A Well, he made a visual examination on the ground too. There was no switching performed on this trip.
- Q The next two headings speak for themselves. I don't think there is any comment necessary. The next part is the number of inspections made

by the head trainman?

A He made three from the right-hand side and fourteen from the left-hand side. They varied between 10 and 15 seconds. I would say they would average about 10 to 15 seconds.

Q On the right side and on the left side?

A Yes, he only made three inspections on the right side and they were limited to about a minute but again he was glancing ahead. He made those inspections on up grades when the movement of the train was relatively slow, around 20 miles an hour, but ^{at} ~~at~~ that speed it was difficult to see the ^{running} ~~road~~ gear of the train because of recent snowfall.

Q Looking at the next one, "Comments on Preparation of Form MP-74"?

A "Nothing booked".

Q And the "Additional Comments" on your trip, Mr. Fraine?

A Well, there were three occasions approaching Wylie, Stonecliff and Adelard the train was right on time and both the fireman and trainman practically simultaneously after a consultation with their timetables drew the engineman's attention to the time at each of those stations and the engineman himself was checking his timetable and the speed of the train was controlled so that it did not pass the west switch ahead of time.

Q Would you go on please?

A At Aylen the engineman went around the engine. I said that.

Q I notice the train entered the siding at Aylen to meet No. 974 and No. 2. Did you stay there for both of those trains?

A Yes, we were at Aylen from 2.45 p.m. to 3.30 p.m.

Q And during that time you say the train was inspected and the engineman and fireman made visual inspection on the ground?

A That is right.

Q The next comment is regarding Mattawa.

A Well, passing Mattawa the trainman picked up orders on the hoop off the running board on the right side back of the engineman and the orders required 951 to wait at Eau Claire until 4.30 p.m., Rutherglen until 4.40 p.m. and Bonfield until 4.50 p.m. Passing the west mile board at Mattawa the trainman told the engineman he had better reduce speed or he would have to stop at Eau Claire to wait until 4.30 p.m. It was 4.15 p.m. at the time. The fireman was patrolling the B unit. Running time between Mattawa and Eau Claire is 11 minutes and if the train had continued as it was it would have reached Eau Claire at approximately 4.26 and would have had to stop and wait until 4.30. That was not a desirable thing to do because Eau Claire is at the foot of a grade and it would have meant some delay getting up the grade.

Q Now, turning to page 3 of Exhibit 107 the same information there as to the train and loads and then the first two headings speak for themselves. Then the third one -- here what are you riding, road switchers?

A That is two road switchers, yes.

Q Where did you ride?

A In the leading cab for the whole trip.

Q That is 129.9 miles?

A Yes sir.

Q All right, comment under "Details of Duties Performed by Fireman on Route"?

A Well, he made a visual examination from the running board and on the ground at Nicholson and Grasset where we were stopped to meet other trains. He was not requested to do so, at least not in my presence and he did not make a report to the engineman when he came back. The engineman also was on the ground at both those points making visual examination.

Q No switching performed?

A No, there was no switching.

Q Then, the next two headings speak for themselves. Then, were there running inspections over these 130 miles approximately by the trainman?

A The trainman made 13 on the right side or engineman's side and he made 24 on the left side. They varied between 10 and 15 seconds in each case. That subdivision has a lot of curvature

on it and short tangents between the curves so there are not too many places where you can look back at the train for very long and you can only see about 15 or 20 cars back. There was a ^{ground}~~snow~~ storm again raised by fresh snow.

Q There was a ground storm again raised by the fresh snow?

A Yes.

Q Additional comments, anything about MP-74?

A No.

Q Additional comments on this trip, Mr. Fraine?

A Yes, I noticed that the, engineman, fireman and trainman were in position and were looking forward approaching all signals and road crossings on that subdivision. I found this rather unique, that both the fireman and the trainman at Nicholson, Missanabie and Amyot were over on the engineman's side to observe ~~all the~~ train order signals.

Q You mean there were three of them over there?

A Yes. The trainman, of course, was out on the running board to pick up the hoop.

Q The rear trainman?

A The head trainman. He was on the rear running board behind the engineman on the right-hand side. The fireman came over and stood behind the engineman to look at the train order signals. The train ^{under signal} was not ~~so~~ visible from his side and he could get a look at it sooner from the engineman's

side.

The engineman made a visual inspection on the ground at Nicholson and Grasset and I noticed the fireman usually looked back when the trainman did to inspect the left side of tge train.

BY THE CHAIRMAN:

Q Where were you located?

A Well, when the head trainman was not over on the right-hand side to inspect I was standing behind the engineman; otherwise, if he came over there I moved into the centre of the cab and stood there.

J. N. Fraine

A That is between White River and Schreiber on the Heron Bay subdivision.

Q This speaks for itself?

A Yes.

Q What are these, road switcher units? Where did you ride here?

A Yes, that is two road switchers. I was in the leading cab for 50 minutes and the balance of the trip I was riding in the second cab.

Q Could you from that position keep the head end crew under observation?

A Yes, I was riding on the left-hand side where I could observe the fireman and trainman. I was accompanied by the Master Mechanic. He was in the seat on the other side where he could observe the engineman.

Q All right -- details of duties performed by fireman on route. You say the engineman did not request information or give instructions to the fireman in your presence. You have got the fireman patrolling the second unit. That is recorded in three instances here and the times he was away from the leading unit?

A Yes, and in addition he inspected around the units when we stopped in Marathon.

Q Any switching performed by this move?

A No sir.

Q Then, they speak for themselves pretty well.

J. N. Fraine

Then there is the number of running inspections made by the head trainman, nine from the right side and twenty-four from the left and there is no comment on that and you see comment on that. Then, "Nothing booked" on the MP-74. Now, under the heading "Additional comments"?

A Well, we stopped at Marathon to inspect and at Middleton to meet 964. We, 951, took the siding being the inferior train, both second class and the trainman took the orders hooped up at Regan from the running board. Again the fireman and the head trainman looked back to inspect the train on this subdivision and the engineman, fireman and trainman were in position and looking forward approaching all signals and road crossings.

BY HON. MR. MARTINEAU:

Q When you have got two road switchers attached together as you had on your trips is there a second crew in the second road switcher?

A No sir.

Q It is all controlled by the crew of the front one?

A It is all controlled by the engineman on the leading unit. There are jumper cables between the units.

Q So they act the same as an "A" and "B" unit?

J. N. Fraine

A Exactly.

BY MR. SINCLAIR:

Q And the same thing would apply if you had even four road switchers, would it not, Mr. Fraine, coupled together?

A That is correct.

Q Or any combination that you might imagine in use?

A Centrally controlled from the leading unit, yes.

BY THE CHAIRMAN:

Q If you had two steam engines coupled together you would have to have a crew in the second and then you would call it an assistant engine?

A That is right, there would be a crew on each steam engine.

BY MR. SINCLAIR:

Q All right, Mr. Fraine, page 5 of Exhibit 107. Here you have again road switcher units and the train is second 952 and you are moving over from Fort William to Schreiber. I think that is the one we had the orders for yesterday?

A Yes sir.

Q Which you filed as an exhibit -- I forget the number but they were the train orders that were filed yesterday. This speaks for itself pretty well?

A Yes, I was in the leading cab about 15

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J. N. Fraine

minutes. The balance of the time I was in the second cab.

Q And going down to the additional comments, anything that you wish to draw to the attention of the Commission or is it just what is set out there?

A Just what is there. The pattern was about the same. I notice that most of these crews were doing almost the same things with a slight variation.

Q I just notice that the trainman got orders hooped up at Loon and Hurkett from the running board on the left side and at Nipigon from the running board on the right side and when you were at Bowker and Gravel the engineman made a visual inspection of the units from the ground?

A Yes.

Q Exhibit 107 sheet 6, Mr. Fraine?

A This is a trip of a freight train from Chapleau to Cartier.

Q And what type of units have you here?

A It is an "A" and a "B" unit. The 4086 is an "A" unit and the 4466 is the "B" unit and I rode the leading cab for the entire trip.

Q You rode the leading unit over the entire subdivision?

A That is right.

Q That is 136 $\frac{1}{2}$ miles approximately?

A Yes sir. Again on this trip as formerly the fireman patrolled on five occasions without being requested to by the engineman and without making any report to him on his return and there was no switching performed on route. The train stopped at Ramsay for inspection and it took ~~to~~ the siding at Stralak to clear train No. 8 which was overtaking us. On that occasion the fireman on this train was a particularly active man and he inspected when he was in the cab on every occasion that the trainman did. As a matter of fact, in some instances he had his head out of the window before the trainman had reached the door where he makes his inspection from.

Q That is, to make running inspection?

A Running inspection of the train and those inspections were about 10 to 15 seconds. I believe there were one or two occasions when there was a long enough curve to make it longer than that but on both occasions they had sufficient knowledge of where they were going and looked ahead as they needed to.

Q I see a note under "Comments on Preparation of Form MP-74". We have something different here.



J. N. Fraine

A The 4086 is booked ten pounds fuel oil pressure showing on gauge with throttle in eighth notch. That is information that the ^{put}engineman/on the form for the benefit of the maintenance forces. There was nothing on the 4466 -- nothing booked.

Q Any comments on the trip that you would like to draw to the attention of the Commission -- anything unusual there?

A No, I don't think so.

Q Or anything you think you have not pointed out?

A No.

Q It speaks for itself, Mr. Fraine?

A I think it does.

Q All right, page 7 of Exhibit 107. Again these are road switcher units, is that right?

A Yes, they are two road switchers.

Q And it is shown and recorded that you rode the cab of the leading unit for twenty minutes and the second cab for the balance of the trip keeping the head end crew under observation?

A That is correct.

Q The usual down here, the various observations speak for themselves. The average time per inspection 10 to 15 seconds. Any comment in addition to that?

A There was some variation on this occasion. While we were running between Britt and Parry

1. The first part of the paper is devoted to the study of the

properties of the function $f(x)$ defined by

$$f(x) = \sum_{n=0}^{\infty} \frac{a_n}{n!} x^n$$

where

$$a_n = \begin{cases} 1 & \text{if } n \text{ is even} \\ 0 & \text{if } n \text{ is odd} \end{cases}$$

It is shown that the function $f(x)$ is an even function and that

$$f(x) = \cosh(x)$$

where

$$\cosh(x) = \frac{e^x + e^{-x}}{2}$$

2. The second part of the paper is devoted to the study of the

$$f(x) = \sum_{n=0}^{\infty} \frac{a_n}{n!} x^n$$

where a_n is defined by the recurrence relation

$$a_n = \frac{1}{n} \sum_{k=0}^{n-1} a_k$$

$$a_0 = 1$$

$$a_1 = \frac{1}{2}$$

It is shown that the function $f(x)$ is an even function and that

$$f(x) = \frac{1}{2} (e^x + e^{-x})$$

$$f(x) = \cosh(x)$$

3.

$$f(x) = \sum_{n=0}^{\infty} \frac{a_n}{n!} x^n$$

$$a_n = \begin{cases} 1 & \text{if } n \text{ is even} \\ 0 & \text{if } n \text{ is odd} \end{cases}$$

$$f(x) = \cosh(x)$$

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$$f(x) = \cosh(x)$$

Sound we did not exceed a speed of 30 miles per hour and the head trainman was out on the gangway of the leading unit on both the left side and the right side to inspect his train. There were several open curves there followed by reasonable length tangents so that he could look back and give his train a real good inspection but in each case that he did it he looked ahead to keep himself oriented so that he knew and was maintaining a forward look-out.

We stopped on that occasion at three points for standing train inspection and passing through Brignal which is the first siding north of MacTier the train was stopped by the conductor from the emergency valve in the caboose because of a hot-box on a tank car about 15 cars ahead of the van.

Q Who noticed it, Mr. Fraine, the rear end or head end?

A It was observed by the rear end crew. It was blazing and they stopped the train between switches. The conductor attended to the hot-box initially and sent the rear trainman forward and the head trainman started back and received a cut-off sign from the rear end man and he came back and cut the units off and we went back through the passing siding and when we got back to the north end the conductor had



secured our rear end protection from the despatcher by using the telephone on the northward absolute signal at the north end of the siding. The engine was then moved out to the main track again and the car was set out in the back-track which is down towards the south end of the siding.

Q And when these various moves were being made how were the hand signals relayed?

A They were given ^{to} ~~by~~ the engineman in each case.

Q Any other comment?

A Here again the trainman and the fireman and engineman were in position looking forward approaching all signals and road crossings.

J.N.Fraime

Q Road switcher units?

A The same unit.

Q They are the same units, you are speaking of the same train, Mr. Fraime?

A Yes sir.

Q You are moving across two subdivisions?

A That is correct.

Q Sticking right with the same train. The crews would change, of course?

A The crews changed at MacTier.

Q All right, you are going into Toronto now?

A That is right.

Q And the information is recorded. You road the cab of the second unit for the entire trip?

A That is right.

Q Did you keep the head end crew of the lead unit under observation?

A Yes sir, I was on the lefthand side and the superintendent of motive power who was with me was on the righthand side.

Q I think it speaks for itself pretty well.
Let us look at the additional comments --

BY THE CHAIRMAN:

Q Well, I suppose under the heading of "Details of duties performed by fireman en route". You say the engineman did not request information or give instructions to the fireman in my presence. They were not in your presence because you were in the second cab?

J.N.Fraime

A That is correct when the train was in motion, sir, but I was talking to the head end crew prior to leaving MacTier ^{and at} Essa and Ypres on the way down.

BY MR. SINCLAIR:

Q And the additional comments?

A Well, again the head end crew maintained a forward lookout throughout. The fireman usually looked back ^{with} ~~and~~ the trainman did. We stopped at Essa for inspection and to meet an extra north and leaving that point I asked the engine man where he figured on going for No. 11, that is the Canadian, and he said he thought he would go to Alliston, that he had time enough to go to Alliston, and that ^{what he} was/wanted to do but passing Ypres the conductor displayed a stop signal from the rear of the train and the train was stopped and backed in at Ypres to meet No. 11 and the conductor came up and said he had taken that precaution because he didn't want to go to Alliston and double over --

BY HON. MR. MARTINEAU:

Q Pardon me, Mr. Fraime, what stop signal was given by the conductor and how could he show it? The train was moving at that time?

A Yes sir, that is a red fusee off the rear of the van with a hand signal.

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J.N.Fraire

Q Who noticed it?

A The head end crew.

Q This was at night? It was between six o'clock, well, 5.45 in the evening. No, it was not dark.

Q And it was noticed?

A Oh yes. That is provided for by Rule 90, sir, and that was one of the things I mentioned.

Q Rule 90?

A Yes, rule 90 in Exhibit 27 on page 49. It is the first sentence of the second paragraph.

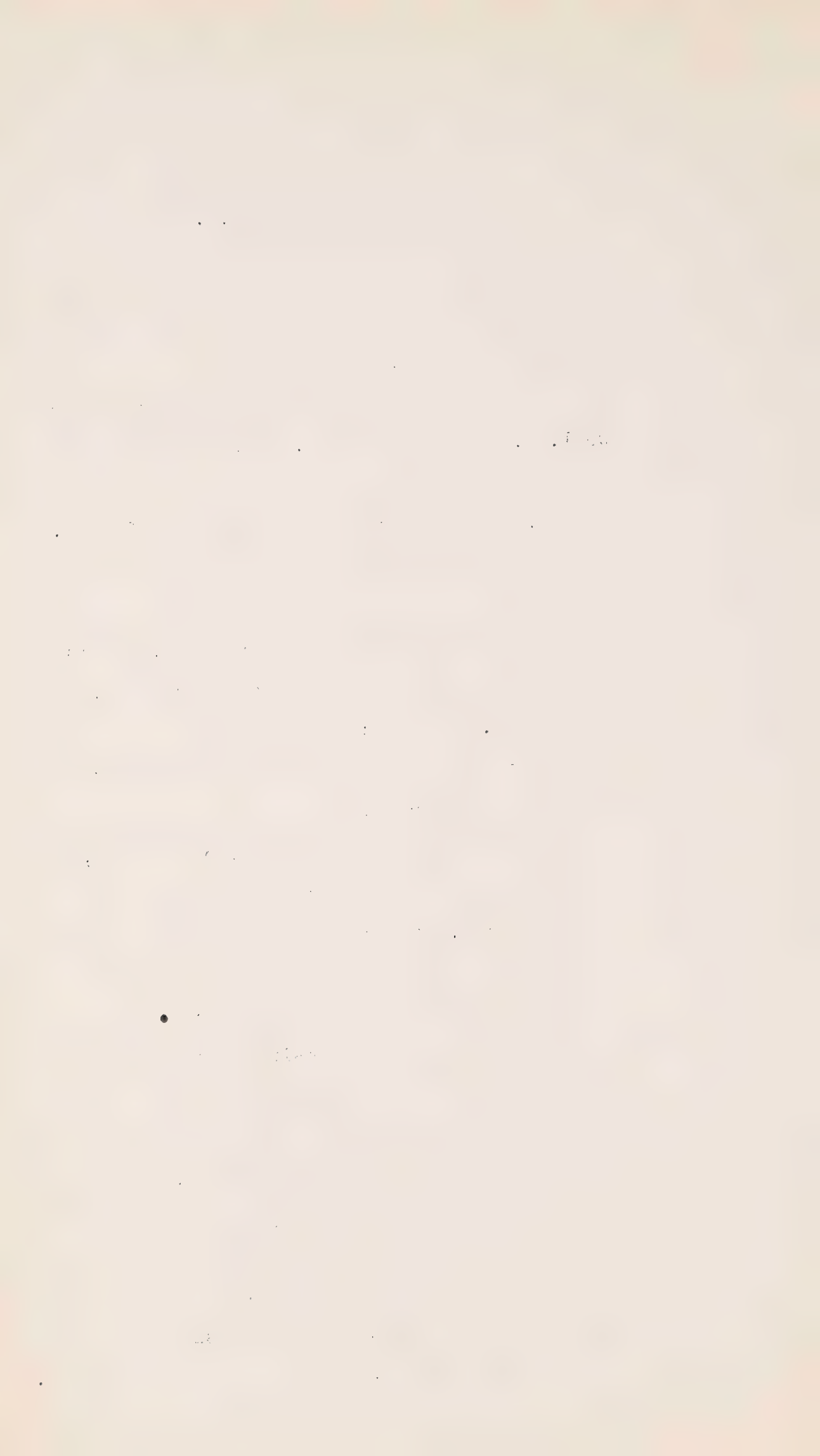
BY MR. SINCLAIR:

Q Page 49 of Exhibit 27 and the first sentence of the second paragraph?

"Unless otherwise provided, on freight, mixed and work trains in motion between stations, conductors and enginemen will see that trainmen are at the front and rear of trains (in cupola of caboose where provided) in position to observe the safe operation of trains and, when practicable, exchange signals when approaching and passing stations."

So that at that particular point it was possible with the length of train we had for the head end trainman to see a signal from the rear end and the conductor gave him a signal.

BY THE CHAIRMAN:



J. H. Fraine

Q He was watching for it at that point?

A He was watching for it and he could see it.

At Brignall where we had had a hot box --

BY MR. SINCLAIR:

Q That was on page what?

A Page 7 -- the conductor could not get a signal to the head end after he saw the hot box because of the curvature so he set the brake and stopped the train himself from the rear but in this instance the conductor was able to have a hand signal exchanged so that the stop was arranged in that manner.

Q Any further on page 8, Mr. Fraine?

A Well, other than to explain why the conductor took that action.. He thought he would lose less time over-all he said, where he could put his whole train in the siding without cutting it and so that he could get a run for the hill which starts south of Alliston.

Q How do you know that?

A He came up and told me that that was the reason.

Q Page 9 of Exhibit 107.

A This is an A and B unit. I rode the A unit throughout the entire trip.

Q This is between --

A West Toronto and MacTier.

Q The same division?

A Going the other way, that is right. Passing

J.N.Fraime

Humber at 8.15 in the morning we experienced a hot engine --

Q Just a minute. I noticed in the details of duties performed by firemen en route -- I am sorry, all right. You were referring to the one ahead of that, hot engine reported.

A On unit 4419 at 8.15 a.m. when we were going through Humber we had a hot engine and the engineman sent the fireman back to see what was going on or what had caused it.

Q You explain that under "additional comments", don't you in detail, Mr. Fraime?

A Yes, I do.

Q Maybe we can look through there as we go through.

THE CHAIRMAN: What is the item on the face of page 9 "alarms and defects en route --"?

MR. SINCLAIR: That is explained in detail under "additional comments".

BY MR. SINCLAIR:

Q As you have started we will just explain it. It is on the back page -- through Humber at 8.15.

A The engine on unit 4419 returned to idle because of the operation of the hot engine protective device.

Q Is this an Alco unit?

A No, it is an Alco B unit. The red light came on in the cab and the engineman sent the

J.N.Fraine

fireman back to determine what had taken place. In the meantime the train continued at track speed of 45 miles per hour. Leaving West Toronto --

Q Just a minute what effect did the second unit in the train have on the speed of the train?

A It didn't have any. We were on a down grade and we could have gone with that one unit for at least 50 miles without interfering with the track speed.

BY MR. LEWIS:

Q Fifty or fifteen?

A Fifty, probably over that but at least fifty.

BY MR. SINCLAIR:

Q Yes, now you go on leaving West Toronto.

A Leaving West Toronto. The District Master Mechanic had noticed the fan switch was out of calibration so that when the fan was turned on the arrow on the switch was three-quarters of an inch below the dial for automatic operation. Perhaps I might explain that.

Q Yes.

A It would be the same thing or similar to the situation which would occur if on your electric stove the dial was forced on its spindle so that when actually the stove was at high the switch might indicate medium or something between medium and low. The switch was forced on its

J.N.Fraire

spindle so that it did not give a true reading and it had to be moved three-quarters of an inch below the mark where it should have been set in order to make the contact to operate the fan.

The District Master Mechanic had noticed this, as I think I said, and he was riding in unit 4419 when the alarm occurred and he moved over to the panel and reached there about the same time as the fireman. He noticed that the switch was set at "automatic" and because it was out of calibration the switch in that position had shut off the fan. He asked the fireman whether he had moved the switch and the fireman said he had. The District Master Mechanic told the fireman the switch was out of calibration and he put it back to where it was before being turned and the fan operated normally. The fireman returned to the engineman and reported that the fan had been shut off when he returned to the cab.

BY HON. MR.MARTINEAU:

Q How was it that the Master Mechanic was on this unit?

A He was riding with me, sir.

Q Why?

A Well, because my knowledge of diesel locomotives is limited as to how they perform.

J.H.Fraire

Q Was he riding with you for the whole trip?

A For the whole trip so that in the event there was anything I wanted to know about the unit he was in a position to advise me.

BY MR. SINCLAIR:

Q So that while you have recorded this as an alarm, Mr.Fraire, if the switch had not been moved by the fireman you would not have had this alarm on that trip, is that correct?

A That is correct.

Q When did the fireman do this?

A He made two inspections prior to the alarm, one at 7.34 to 7.38 and again at 7.52 to 7.56 and I understand that he adjusted the switch as he thought -- he did it inadvertently -- on his second patrol which was when we were passing through Kleinberg or close to it.

Q I notice under the heading of "Details of duties performed by firemen en route" there were seven times this man patrolled?

A That is right and with the exception of the time we had the alarm the engineman did not ask him to inmy presence at least nor did he make any report except on the occasion of the hot engine alarm.

Ex 88
K4-1

J.N. Fraine

Q Now, coming down to comments on MP-74, it refers there to 4419. That is the A unit?

A No, that is the B unit. Then I see booked the governor oil pipe joint leaking at the pump and the engine cooling fan switch indicator out of calibration and on the 4086 we experienced a whistle failure just as we were approaching Midhurst and the district master mechanic was able to get the whistle operating again while we were moving between Midhurst and Medonte because if it remained in that condition it would damage itself. It was booked because it required a new spindle and a rubber seat.

Q What do you mean by that? You mean the district master mechanic did a repair that would work, but it had to be fixed or else it would cause damage?

A Well, the rubber seat --

Q I don't want details -- well, go ahead and give the details if you wish.

A Well, the rubber seat protects the spindle from coming down hard on the part of the whistle apparatus and if you leave it operating for an extended period with no rubber seat in there you will damage it.

Q That is why it was booked?

A That is why it was booked.

Q He didn't have the repair parts with him?

A No, they would get it at the maintaining station.

K4-2

J.N. Fraine

Q And the additional comments on here we have trainman, fireman and engineman in position and then over on the second page on the back of the page rather --

A We met two trains en route. We met first 80 at Midhurst and second 80 at Carley and we took the siding on each occasion. We were 20 minutes at Midhurst and 20 minutes at Carley making the meet and inspection.

BY HON. MR. MARTINEAU:

Q Was it a boat you were driving? I see you say "port side"?

A We are back to ^{Medonte} ~~Almonte~~. That is the Port McNicoll side. That is some phraseology that is used in that part of the world.

BY MR. SINCALIR:

Q Then, you have dealt with the next and you have dealt with the next one. Now, out of Medonte, have you anything to say there?

A Well, in making that set-out the train pulled into the passing siding parallel to the MacTier subdivision and on the east side of the MacTier subdivision and stopped with the engine clear of the north switch and after the trainman had determined that the cars were to be set out on the port side the train proceeded ahead with the head trainman remaining near the fouling point of that siding and he cut off 31 cars. He rode the rear of

those 31 cars northward until the rear end had cleared the home signal of the interlocking and then he moved over at that point and gave signals on the fireman's side to set out those cars on the port side.

The rear end crew had got up to that point by the time he had got over there ^{from} ~~for~~ the rear end of the train ~~had~~ and they ^{had} set the switches and the signals were given on the fireman's side for that movement. It was subsequently necessary to make an additional movement back to the train to get the one car that the trainman had inadvertently left on the train. On that occasion the signals were given to the engineman and because that switching was improperly performed I arranged to direct it to the attention of the local officers to correct it. If the rear end crew had taken up a proper position all the signals could have been made.

Q All the signals could have been made and should have been given to the engineman?

A That is right.

Q Any further comment on that one?

A No, I don't think so.

Q If not, we will go to the last one, No. 10.

BY THE CHAIRMAN:

Q I have not followed this matter of the switch. The cooling of these engines was by water and by fans, was it?

- A Yes sir, very similar to an automobile.
- Q This switch, where was that located?
- A It is located on the control panel -- I think they call it, it is a panel in any event on the inside of the B unit about the centre of the unit.
- Q And what had happened to it?
- A Well, it was a switch that is on a spindle somewhat similar to the arrangement of the switch on an electric stove.
- Q I understand that, but had somebody touched it en route?
- A Yes, the fireman did.
- Q What had he done?
- A Well, when the fan was operating and the contact was being made through the switch for the fan to operate the arrow on the head of the switch which should have been pointing at "Automatic" was actually pointing three-quarters of an inch below the line on the outer dial which said "Automatic", and the fireman had noticed that and apparently thought that the switch ^{should} ~~could~~ be turned up so that the arrow on the switch ^{would} ~~could~~ be in line with the mark on the dial and in doing that he shut the fan off.
- Q The fan is not on all the time? It just comes on when the heat gets to a certain point?
- A No, I think the fan runs all the time, sir. It is automatic. The shutters open and close.
- Q Well, if the fan is automatic surely the fact that

it is automatic would indicate that it goes on automatically when something happens?

A Whether it goes on and off or varies its speed, I do not know.

MR. SINCLAIR: I am instructed by my mechanical adviser that it is automatic and goes on when the temperature goes to a certain temperature and the speed also goes up to a maximum when the temperature is hot.

THE CHAIRMAN: I would have thought so.

BY THE CHAIRMAN:

Q This may not be important but I would like to understand it. When the fireman went out and noticed this fan was it in motion?

A Well, he couldn't see the fan. It was in motion but he couldn't see it.

Q Would he know whether the fan was stopped or was operating? That is, at that time?

A I am told, the master mechanic told me, that there was a way in which he could have checked it by examining a shaft that turns the fan and he would have to open something to see it.

Q What called his attention to the switch?

A Well, he was walking by it, I presume, and saw that the arrow was down below the line that said "Automatic". The line was here on the outer dial of the arrow which was like that (Indicating).

Q When the arrow is at "Automatic" what does

that mean? The arrow is pointing to something?

A Yes, pointing to "Automatic".

Q That is the word "Automatic"?

A Yes.

Q He noticed that that was the position of the switch?

A He noticed it was not exactly in position. They were three-quarters of an inch apart and he lined them up and in so doing because the switch was out of calibration --

Q How did he line it up?

A By just turning it.

Q And by doing that he shut it off?

A Yes, inadvertently he shut the fan off.

Q Inadvertently or not, he shut the fan off. That means that it would not work at all after that?

A That is correct.

Q What did he think he was doing when he did that?

A I don't know, I think he thought in good faith that he was putting something where it belonged.

Q Oh, quite, I am not suggesting any wrong motive to it. He knew, I suppose, that this fan if it was going to function had to be at the automatic position. Is that what you mean?

A That is right.

Q And it was not quite on that automatic position so he just turned the switch?

A That is right. I don't think perhaps he thought too much about it. He just assumed it should be

in line and put it there.

Q And I suppose he didn't know the inner workings of it?

A No, he would not be expected to, sir.

Q I appreciate that now.

BY MR. SINCLAIR:

Q No. 10, Mr. Fraine?

A No, 10 is a trip from Smiths Falls to Montreal with a road switcher as a leading unit and a B unit to the rear. I rode the cab for the entire trip.

It perhaps might be interesting to note that that train was 96 cars, 6,049 tons.

Q Is that a heavy train?

A Reasonably, yes. The engineman did not request any information or give any instructions to the fireman in my presence. The fireman made a visual inspection on the ground and opened the side doors on the road switcher at Monklands when we stopped to inspect and there was no switching performed en route.

Q Now, in so far as your inspections are concerned, there were 15 from the right side and 16 from the left side and you have your comment as to how they were done and in regard to the additional comments what have you there -- anything of interest, do you think, Mr. Fraine?

A Well, again the engine crew and the head trainman were in position and alert maintaining a lookout

ahead.

Q Approaching all signals and road crossings?

A Approaching all signals and road crossings and the engineman also made a visual inspection of the unit at Nonklands.

THE CHAIRMAN:

Q The rest of that sentence -- "while train was being inspected at Nonklands" -- that means while the rest of the train was being inspected by the rear end crew?

A Yes, and the head trainman went around a portion of the train too. Again the fireman usually looked back when the trainman did on the left side.

MR. SINCLAIR: I wonder, sir, I have a few general questions on these observations. With your permission, sir, I am not feeling too well today and maybe you could let us adjourn.

THE CHAIRMAN: Very well.

BY MR. SINCLAIR:

Q Mr. Fraine, I notice from these observations that there were patrols on some units and no patrols on others. What was the reason for that and what is your view as to the need for patrols on these diesel units by fireman?

A Well, generally speaking the patrols were made where the consist included car body type units. When the consist was road switchers the patrols were not made. I could not detect on any trip any difference between the operation of the train that was without a patrol. The units functioned as well and they handled the train and I couldn't see any value or any rhyme or reason for patrolling the units.

BY THE CHAIRMAN:

Q Do you mean by that that in the case of a road switcher to patrol it while it is in motion is a physical impossibility by using what you said this morning and that being so there is no need to patrol the road switcher or the car body type at all?

A ^{IF NO}
~~No, if~~ one patrols the road switcher and it operates satisfactorily then I don't see there is any need to patrol the car body just because the car body provides access.

Q Are there any instructions as regards



patrols?

A There was an ~~order~~, I think.

BY MR. SINCLAIR:

Q Exhibit 7, I think as I recollect it, either 6 or 7. Yes, Exhibit 7, pages 6 and 10, one covering the east and the ~~other~~ covering the west. You have that, Mr. Fraine?

A Yes, I have it here. In the full paragraph at the bottom of the exhibit the second sentence --

THE CHAIRMAN: Exhibit 7?

MR. SINCLAIR: Pages 6 and 10 of Exhibit 7, the last one. They are both the same. The last page, I think, would be the handiest.

THE WITNESS: The full paragraph at the bottom, the second sentence reads:

"A Helper is not required to patrol diesel units, except as directed by the Engineman or as may be required for the operation of steam generators."

MR. LEWIS: Mr. Chairman, I don't mind arguing with my friend or his witnesses at all but I hate to do it about facts. Perhaps the witness will look at Exhibit 107 again and see if his statement that ~~usually~~ inspections were made only in the car body type apply.

THE CHAIRMAN: Have you any particular case in mind?

MR. LEWIS: Yes, Mr. Chairman, as I

said I don't mind arguing but when we want the facts it is perhaps better to get it. At the head of page 2 there is a road switcher and a "B" unit and you would have to go from one to the other.

THE CHAIRMAN: Page 2?

MR. LEWIS: Yes, where patrolling was made and paid for where both were road switchers.

HON. MR. McLAURIN: You are talking about Exhibit 7?

MR. LEWIS: No, 107, sir.

MR. SINCLAIR: It says: "Fireman on 4 patrdled to second cab". That is not patrolling the unit.

THE CHAIRMAN: Let us deal with this in an orderly way. We have page 2 and page 4. Any other pages?

MR. LEWIS: I can't quickly see any others.

THE CHAIRMAN: Now, Mr. Sinclair, you might ask the witness about these. Take them one at a time.

BY MR. SINCLAIR:

Q Well, page 2 in Exhibit 107, Mr. Fraine, the lead unit here is a roadswitcher and the second unit being 4418 is a "B" unit?

A That is right.

Q And under your heading "Details of duties



performed by fireman on route" you say:

"Without request fireman patrolled second unit, a 'B' car body type on all those three occasions mentioned".

A I think I said that just a minute ago too, that he patrolled the car body types.

Q But how would he get from the road switcher to the "B" unit?

A Well, he climbed over the railing at the back -- I didn't watch him do it but the only way he could do it is climb over the railing at the back of the lead switcher and step into the vestibule on the leading end of the "B" unit and coming back he would do the same thing.

Q What is your comment on that practice?

A Well, I don't see why any man should risk doing that. He is walking across couplers.

Q Well, are there chains across?

A No, it is a solid bar right across. It is a framework.

BY THE CHAIRMAN:

Q Solid bar at the rear end of the rear deck?

A Yes sir.

BY MR. SINCLAIR:

Q On this particular unit?

A Yes sir.

Q On some of them they are open, are they not?

10

A Yes, those that are used and can be intermingled in passenger service, used for passenger service there is an opening provided and a cat-walk.

Q Now, on page 4?

A That was a pair of units that were equipped with cat-walks and piped for passenger service and the fireman on that occasion -- I might say that both of these men are good, energetic young men. I think they do know their jobs well and conduct themselves well but the man on the North Bay Subdivision was a local chairman of the firemen there, as a matter of fact.

Q That is the one you were dealing with on page 2?

A That is right. This chap I have known him for quite a while and his father quite a while before him -- that is perhaps irrelevant.

Q You mean the fireman here on page 4?

A Yes, and he is a particularly energetic young man and he came back there with a flashlight and shone it on the gauges in the cab. He was there perhaps a minute or a minute and a half said a word or two to myself and the master mechanic and went back.

Q He didn't get back into the engine on this road diesel?

A No, he just came into the cab and I was

sitting on the control side because the engine was moving in reverse and he pardoned himself and leaned over me with a flashlight and had a look at some of the gauges behind me.

BY HON. MR. MARTINEAU:

Q Were the two cabs together?

A Back-to-back, yes sir.

BY THE CHAIRMAN:

Q He didn't step from one cab to another?

A No, he has to go outside the cab, sir.

BY HON. MR. MARTINEAU:

Q From one outer deck to the other outer deck?

A Yes, what he does if you would not mind looking at Exhibit 97, that is 8426 he goes out of the door just immediately to the left of the "8" there just behind the engineman and he walks around to the centre of the back of the unit steps across there, a cat-walk, and then he goes to the left-hand side and goes into the same door except that the other units is the other way to .

BY MR. SINCLAIR:

Q He didn't open the side doors or anything of that nature?

A No, made no attempt to.

Q And in your opinion what do you say as to the necessity for going back and looking at the gauges of the second unit like that?

A Well, it certainly was not necessary.

Q And if there were no cat-walks across what would you say about going back?

A I would say he should not do it.

Q Now, Mr. Fraine, on these ten trips, these 1200 miles you took, as I recollect them and maybe you should draw attention of the Commission to that, there were two that might be termed stops that had not been arranged by train order or timetable or what may be termed unscheduled stops. There was one where the conductor decided to get away ~~from~~ a double or ~~do~~ a double easier. There were two, were there not?

A There were three occasions, twice where the conductor applied the air from the rear and stopped the train between the switches on the siding and on the third occasion he arranged to have the train stopped by a hand signal and backed in

Q What is your comment, if any, on that practice?

A Well, it is proper practice. The conductor is in charge of the train and under circumstances where he considers it is justified that he exert his prerogative I think he should.

Q In your opinion was there or was there not any hazard created by him stopping the trains in that way?

A No, no hazard.

MR. SINCLAIR: I think that is all on that point. Mr. Chairman.



THE CHAIRMAN: Would you like to adjourn now?

MR. SINCLAIR: If it meets with your convenience sir.

THE CHAIRMAN: All right, we will adjourn.

--- The Commission adjourned at 3.25 p.m.
until 10.30 a.m. Friday, March 29, 1957.

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ROYAL COMMISSION ON EMPLOYMENT OF FIREMEN
ON DIESEL LOCOMOTIVES IN FREIGHT AND YARD
SERVICE ON THE CANADIAN PACIFIC RAILWAY

18

PROCEEDINGS

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I N D E X

WITNESSES:

FRAINE, J.N.
Exam. by Mr. Sinclair 2299

EXHIBITS:

No. 108 - Switching details, Winchester,
MacTier and Oshawa 2301

109 - Seizures and blackouts,
engineers, 1952-1956 2309

110 - Efficiency tests, 1955-56 2331

111 - Crossing accidents, 1956 2334

112 - Speed and stopping distances,
motor vehicles and trains..... 2341

113 - Employee train accident ratio ... 2346

114 - Duties of enginemen 2354

115 - Comparison of train times 2372

ROYAL COMMISSION ON EMPLOYMENT OF
FIREMEN ON DIESEL LOCOMOTIVES IN
FREIGHT AND YARD SERVICE ON THE
CANADIAN PACIFIC RAILWAY

Proceedings of public
hearing held at Ottawa,
Ontario, Friday, March
29, 1957

PRESENT:

Hon. R.L. Kellock,	Chairman
Hon. C.C. McLaurin,	Member
Hon. Jean Martineau,	Member
Douglas M. Fraser,	Secretary
A.R. Winship	Asst. Secretary

APPEARANCES:

D.W. Mundell, Q.C.	Representing the
C.J.A. Hughes, Q.C.	Commission
I.D. Sinclair,	Representing the
Allan Findlay,	Canadian Pacific
	Railway Company
David Lewis,	Representing the
	Brotherhood of
	Locomotive Firemen
	and Enginemen

Friday,
March 29, 1957.

18TH DAY

MORNING SESSION

--- The Commission opened at 10.30 a.m.

J.N. FRAINE, Recalled

EXAMINED BY MR. SINCLAIR:

Q Mr. Fraine, how is switching performed at stations between the major terminals?

A Well, it is done in a variety of ways. If you have a location where there is sufficient work to justify it a yard engine is assigned. If you have a locality of limited length, perhaps two or three adjacent stations where there is a lot of work to be done, road switcher assignments are established.

Over subdivisions normally there is a way freight operates usually on a tri-weekly basis and does switching at stations that is required to be done and on occasion a few freight trains are stopped to set out a car, lift a car and maybe make a switch or two.

Q Now, Mr. Fraine, an example of a short run where there would be switching, that was the second one you gave us, we had some evidence earlier in these proceedings about the Emory turn. Would that be one point?

A That is right. There are two road switchers assigned to operate between West Toronto and Emory.

BY THE CHAIRMAN:

Q Where is Emory?

A Emory is about eight or nine miles north of West Toronto on the MacTier subdivision.

BY MR. SINCLAIR:

Q And the next class you gave would be where the way freight would operate over the subdivision. In the MacTier subdivision is there a way freight operating on the MacTier?

A Yes, way freights on the MacTier subdivision are now working on a tri-weekly basis between West Toronto and Camp Borden which is about 20 to 25 per cent of the subdivision and then the balance of the subdivision north of that is handled by through freight trains as required.

Q And this subdivision has a good example of the first class you gave where there was enough work to assign a yard switching assignment at the station. Any of those on that subdivision?

A Yes, there is an engine assigned at Camp Borden which operates on scheduled runs between Camp Borden and the main track, a distance of about four or five miles, and it does the work in and around Camp Borden.

Q Mr. Fraine, you said that road freight crews would do switching at certain places. I think your evidence was that they would set out or pick up the odd car or the odd move, we will say, and maybe do the odd switch?

A Yes.

MR. SINCLAIR: Mr. Fraine has made an analysis of three subdivisions in Eastern Canada as to the number of through trains, freight, that do

do switching in how many places the switches were done at. I would like to file that as Exhibit 108.

EXHIBIT No. 108 -- Analysis covering month of November, 1956, showing number of through freight trains excluding way freights which performed switching en route during November 1956 on three subdivisions, Winchester, Oshawa and MacTier.

MR. SINCLAIR: This is an analysis covering the month of November 1956, the number of through freight trains excluding way freights which performed switching en route during November, 1956, on three subdivisions. They are listed there -- Winchester sub, the Oshawa sub and the MacTier sub.

BY MR. SINCLAIR:

Q Why did you pick those three, Mr. Fraine?

A They are in the industrial portion of the territory. I think they are reasonably representative.

Q Would there be other subdivisions in the Eastern region where there would be more switching done by freight train crews than these three?

A Yes, I think there are.

Q Would there be others, the other way, where there would be less?

A Yes, there would be quite a number where there conceivably would not be very much, practically none.

Q What have you got in mind there?

A Well, the operation between Cartier and Fort William or, if you go on to another territory, the territory between Fort William and Winnipeg. There is very little there in the way of industry adjacent to the trackage so that most of the work is done by way freights.

Q Just looking at Exhibit 108, would you please comment on that?

A Well, on the Winchester sub there were 507 through freight trains during the month.

Q During the month of November 1956?

A Yes, 338 of them were not stopped to do any work en route, that is approximately 67 per cent, and 169 of them were, and there were 264 stops in all involved which works out to the average number of stops per train for work performed en route on that subdivision of 0.52.

BY THE CHAIRMAN:

Q What are the limits of the Winchester subdivision?

A From Ballentine which is right at Montreal to Smith Falls. The Oshawa subdivision, is between Trenton and Toronto --

BY MR. SINCLAIR:

Q Trenton, Ontario, and Toronto?

A Yes, and the MacTier subdivision is between West

Toronto and MacTier. Similarly, the same figures on the Oshawa subdivision indicate an average number of stops of 0.86 and on the MacTier subdivision of 0.60.

BY MR. LEWIS:

Q This average is the average of the total number of trains or those that made stops?

A It is the total number of stops related to the total number of trains.

Q And not only to those that made stops?

A No sir.

BY MR. SINCLAIR: .

Q Mr. Fraine, on the Canadian Pacific how are hand signals given when there is switching or set-outs to be done by freight crew en route?

A The recognized practice is to give signals direct to the engineman.

Q Have you made a check of any of your subdivisions on the Eastern region recently to ascertain whether there is any point where the recognized practice cannot be carried out?

A Yes, I have recently observed the MacTier subdivision, checked the MacTier subdivision --

Q How many locations would there be where you can do switching en route on the MacTier or set out?

A Twenty-two or twenty-three.

Q Have you checked each of those?

A Yes.

Q And what did you find?

A Well, there is not any place there that the work required cannot be done by the crew giving signals to the engineman.

Q Now, generally, Mr. Fraine, on the Canadian Pacific do you know if there are any locations where switching en route by road crews is so located or set up that the recognized method of giving hand signals cannot be done?

HON. MR. MARTINEAU: Where?

MR. SINCLAIR: Generally on the Canadian Pacific. This was a specific check he made. I am asking him a question generally did he know of any location where the recognized practice of giving hand signals by ^{train}~~switch~~ crews in switching en route could not be carried out.

THE WITNESS: No, I don't.

BY MR. SINCLAIR:

Q Have you checked in any way on them?

A Well, as I go around the territory I talk to the local officers and they assure me that there are no places where the work cannot be done.

Q Cannot be done?

A Perhaps I had better put that in the positive. They assure me that the work can be done on their territories by giving signals to the engineman.

Q When you say that are you restricting yourself to your own region or have you checked outside of your region?

- A Yes, I have had some discussions with officers of the other regions and they give me the same answer.
- Q Now, Mr. Fraine, is this recognized method of giving hand signals by road crews doing switching en route always followed?
- A No.
- Q Why not?
- A Well, there are occasions when for convenience and expedition the head trainman sets off a car or cars or lifts a car or cars at a station where curvature is on the fireman's side, and I am satisfied that under those circumstances the trainman often works with the fireman.
- Q Now you say "expedition". Expedition for what or for whom?
- A Well, it helps to get the train over the road quicker and that is an advantage, of course, to the crew. It is not sufficiently material to be of major moment to the railway.
- Q Now, Mr. Fraine, in your own person^{al}/experience have you had any experience as to instructing trainmen as to the proper practice of giving hand signals when switching en route?
- A Yes, when I started as a trainman that was given to me in that manner.
- Q Given to you in what manner?
- A Well, the conductor that I started to work with told me that that was the proper practice.
- Q What was the proper practice?

A To give signals to the engineman and while I worked with him that was the way we did that work and as I have had occasion to hire trainmen I have passed that information on to them.

Q When you were operating as a trainman for a relatively short period in your career that you were, can you recollect any instance of receiving instructions as to the proper method actually on the ground from any of them?

A Yes, I have got a distinct recollection of one pay trip I made. The circumstances were that we had gone from Kenora to Ignace --

Q That is in Ontario?

A2 A Both in Ontario -- and when we were called to leave Ignace to go back to Kenora we were required to put our own van on the train and the conductor after we had put the van on the rear of the train accompanied me with the engine through No. 1 track in the south yard at Ignace to the west end of the yard and I detrained at the west switch on No. 1 track and set it for the lead to enable the locomotive to be backed up and moved to the track on which the train was standing. After I had reversed the switch the fireman was looking out of his window and I gave him a back-up signal and moved over with the intention of getting on the rear step of the tender on the left-hand side. The engine did not move and within a very short space of time the conductor

appeared on the other side of the tender and told me to go on over there if I intended to keep out of trouble.

Q Go on over where?

A To the engineman's side.

Q Why didn't the engine move at your signal?

A Because he was at the cab, was in the cab and told the engineer not to move and he was giving me an object lesson ^{by} ~~of~~ preventing ^{the} ~~a~~ movement being made.

Q Now, Mr. Fraine, in your opinion why should the recognized practice of giving hand signals on the road be followed?

A Well, habit is a great thing for keeping out of trouble. If men work on one side and then the other instinctively while it may not be adverse in every circumstance it can lead to situations where you have men on both sides of a movement trying to give signals and when you get into circumstances of that kind they usually result in difficulties of one kind or another.

Q Now, in switching en route by freight crews at these stations between major terminals how many engines would be working at the station at one time doing any switching?

A In practically all cases only the one.

Q That would be the one --

A The one that would be doing the switching. It is conceivable that another train might arrive at the station but he certainly would require

to keep clear until all the switching was completed. Trackage is limited.

Q In your opinion, Mr. Fraine, during switching en route is it necessary or desirable at any location that you know of for firemen to be used as a signal passer?

A Well, it is not necessary in the sense that it cannot be done without him. It may be done, as I say, as a matter of convenience and to expedite the movement a little.

Q Well, in your opinion is it desirable to have the fireman used as a signal passer while switching en route?

A No, I don't think so.

MR. SINCLAIR: I had arranged for Mr. Fraine, Mr. Chairman, to make a certain search of the records of the company of cases of enginemen suffering seizures or blackouts while operating engines for a period from 1952 to 1956. Now, this was under way and completed before the request made by Mr. Lewis.

THE CHAIRMAN: Back to 1945.

MR. SINCLAIR: 1946, I think he said. Now, that search while I have asked it to be started and it is underway may be some time before it goes on, and in any event I would like to submit the material we have to the Commission.

THE CHAIRMAN: If there is any further material it can be attached.

MR. SINCLAIR: That is right, sir.

THE CHAIRMAN: Exhibit 109.

EXHIBIT No. 109: Cases of
enginemen
suffering a
seizure or
blackout
while operating
engines on
Canadian Pacific
in five years,
1952-1956.

THE CHAIRMAN: What is it?

MR. SINCLAIR: It is a statement headed
"Canadian Pacific Railway, Cases of Enginemen Suffering
a Seizure or Blackout while operating engines on
Canadian Pacific in five years, 1952-56".

HON. MR. MCLAURIN: Throughout the
system?

MR. SINCLAIR: Yes sir, throughout the
system.

MR. LEWIS: Would my friend be good
enough, Mr. Chairman, to indicate whether "operating"
is normally operating or travelling at the time?

MR. SINCLAIR: No, "operating" means
the engine was running.

MR. LEWIS: The engine was in motion?

MR. SINCLAIR: Yes, when he was running
the engine, engine movement. This does not cover
cases that my friend has asked for where people may have
had a seizure or blackout while on duty or cases when
a man suffered a blackout or illness when the engine
was stopped.

BY MR. SINCLAIR:

Q Now, Mr. Fraine, looking at Exhibit 109, I notice that the first heading is "Road - Steam"?

A Yes sir.

Q I notice under that designation there are four cases listed. Now, taking the first one, that is Engineman Barons. What comment have you to make on that? Maybe I might read it through first and then get your comment.

"Engineman S. Barons, age 63, suffered a heart attack at 10.30 a.m., January 31st, 1952, while in charge of engine 1278 (steam) near Mortlach, Sask. Freight train Extra 1278 west was ordered at Moose Jaw for 7.15 a.m. and proceeded without incident to a point about 3 miles east of Mortlach when engineman Barons stood up, leaned on the throttle, which he subsequently closed, and then lay down on the deck of the engine and asked the fireman to take over. Fireman Allan handled the train to Mortlach where Barons was removed to the station waiting room and subsequently to Moose Jaw by ambulance. A relief engineman was secured from Moose Jaw. Barons had his last medical examination April 23rd, 1951. He suffered a seizure on January 4th, 1951, at Secretan while in charge of engine 1293 handling coast freight

"No. 29 and had to be relieved. Subsequent doctor's report indicated heart and chest normal and cause of seizure gastritis."

THE CHAIRMAN: Does that mean in non-technical terms acute indigestion?

MR. SINCLAIR: That is right, sir.

BY MR. SINCLAIR:

Q What is your comment on that, Mr. Fraine?

A Well, it may be noticed that Barons had some warning of the fact that he was in difficulty physically and his instinctive action was to stand up and close the throttle and he did that.

Q Now, the next case is Engineman Edwards.

"Engineman W.S. Edwards, age 47, was taken ill about 11.30 p.m. April 18th, 1953, while in charge of engine 665 (steam) near Bow Island, Alta. He had come on duty at 11.00 p.m. to assist freight train 96 from Bow Island to Whitlea. Shortly after leaving Bow Island, Edwards complained of being ill at Winnifred, 11 miles east of Bow Island and he decided that he could not continue. Pusher engine was cut off and returned to Bow Island where the engineman booked off duty at 5.30 a.m. He went to bed in the bunkhouse and died at 5.30 a.m. He had received his last periodical medical examination in July, 1950."

Q Any particular comment on that?

A Well, again, Engineer Edwards had some warning of the fact that he was not well physically and he took precautions to get himself off duty.

MR. SINCLAIR: I should explain to the Commission that in making this record we asked them to make the search broad and not just restrict it so that there would be no question of whether the man actually blacked out or seized. It is on the incapacitation recorded with the company.

THE CHAIRMAN: There is one word I didn't get.

MR. SINCLAIR: We mean where he blacked out or was seized or incapacitated in a major degree. These are cases where they reported them or men had slight incapacitations which later became serious as you can see in this case.

BY MR. SINCLAIR:

Q Now, the third one, Engineer Munroe.

"Engineman R.F. Munroe, age 58, died due to heart attack about 7.00 a.m., December 12th, 1953, while in charge of engine 1057 (steam) at Mattawa, Ont. Freight Extra 1057 west, one load and four empties, was approaching east switch at a speed of about 10 m.p.h. when engineman slumped forward in his seat. Fireman Noe stopped the train and after he and head end trainman moved the engineman to the deck, Noe moved the train to the station where a doctor was

"called, who pronounced Munroe dead.

Spare Engineman Emonds of Mattawa took train forward. Munroe was last examined by Company Medical Officer June 5, 1952."

Any particular comment on that?

A Well, that is the only one of these four cases in which the engine was moving when the engineman actually was incapacitated to the extent that he could not do anything about it, but you will notice it was moving at a slow rate of speed and both the fireman and the trainman were there to get the train stopped and help or assist the stricken man.

Q The fourth case of Engineman Lamothe is:

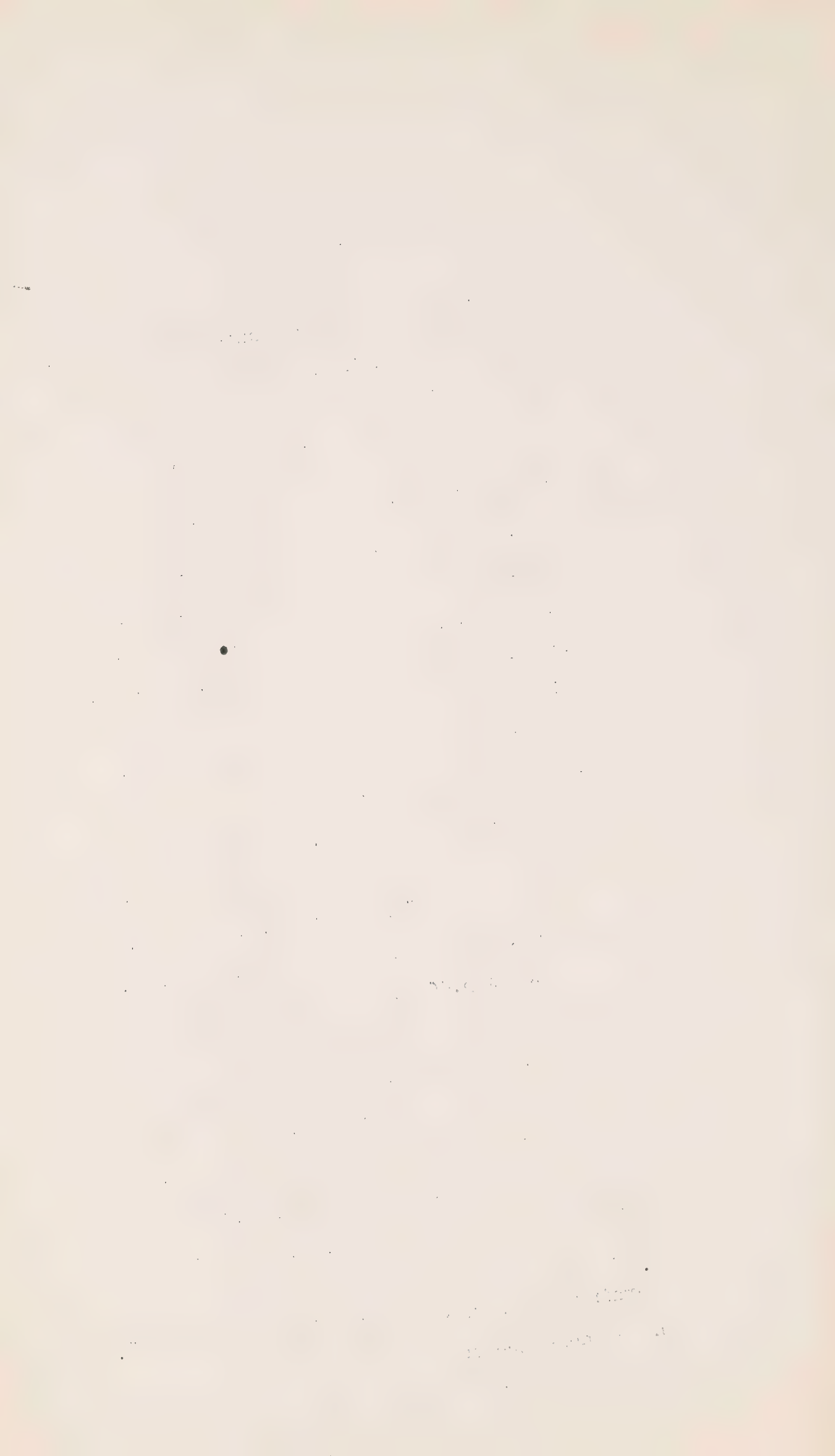
"Engineman J.E. Lamothe, age 62, was taken ill at Almonte, Ont., about 3.40 a.m., December 23rd, 1955, while in charge of engine 2826 (steam), train No. 17. Engineman Lamothe slumped in his seat just after bringing the train to a stop at the station. He subsequently died in hospital at Almonte."

That one speaks for itself, Mr. Fraine?

A Yes.

Q Turning to the next heading "Road -- Diesel", here there are two cases noted. The first one I should read:

"Engineman C.P. Bird, age 53, claims to have experienced a blackout about



"1.57 a.m., October 8th, 1955, while in charge of locomotive 4077 (diesel) near Osprey Lake, B.C. Unit 4077 and three other units were pulling train 93 which struck the rear of passenger train No. 67 which was standing at Osprey Lake, resulting in the death of two employees and an injury to a number of passengers and employees. After passing Kirton, 13.5 miles east of Osprey Lake, the head end trainman went to the toilet facilities in the leading unit but, instead of returning to the cab, he went to the trailing unit and was seated on the fireman's seat on the north side of the cab when collision occurred. The fireman, before entering yard limits at Osprey Lake, made an inside patrol of the diesel units with the knowledge of the engineman and had just returned to the cab when impact took place. The conductor and rear end trainman were in the cupola of the caboose at the east yard limit sign and noticed that the speed of their train had not been reduced but slightly increased, and estimated the speed to be between 25 and 30 m.p.h. The conductor instructed the rear trainman to give the engineman stop signals but before this was done collision occurred. It had been the intention of both the engine and train crew

"that a standing inspection of their train would be made at Osprey Lake. There was evidence that beer was available in the cab of the locomotive. The fireman admitted taking one bottle aboard, which he gave to the engineman. The latter denied having consumed any.

The engineman concerned remembers arriving in the vicinity of the east yard limit board at Osprey Lake and states that as he approached the east yard limit board he placed the throttle in the No. 6 position and then has no recollection of what happened until he was taken out of the cab after the mishap.

Engineman Bird has been dismissed by the Company".

What is your comment on that case, Mr. Fraine?

A Well, the facts pretty well speak for themselves. An exhaustive investigation was conducted into that case and the company was unable to find any information which would substantiate the claim of Engineman Bird.

Q Did the company accept his explanation?

A No, they did not; they dismissed him.

Q The second case on diesels is Engineman Call:

"Engineman H.C. Call, age 62, died of a heart attack at 5.05 p.m., May 27th, 1956, while in charge of engine 1802 (diesel) at Newport, Vermont. Engine 1802



"was pulling passenger train 211. Engineer-man Call, whose assigned run was from Newport to Montreal, had started the train and moved about 100 feet when communicating signal to stop was received because parlor car attendant reported lights in his car in bad order to the carman, who signalled for the stop so he could examine the lighting. Engineer~~man~~ Call brought the train to a stop and then slumped in his seat. The train was handled from Newport by the fireman, who is a passed engineman. Call had ~~his~~ last medical examination April 30th, 1956."

That is a passenger train. Any particular comment on that, Mr. Fraine?

A Only that Engineer Call was able to bring the train to a stop indicating that he probably had some warning of the seizure that was coming upon him.

Q Now, what about yards? There is no heading on this ~~Ex~~hibit 109 for yards. What did your search disclose as to yards?

A We were not able to find any cases where an engineman had been stricken or suffered a seizure or blackout while operating a yard engine.

Q Now, during the last week or so Mr. Lewis in dealing with this matter with other witnesses

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put forward four names of enginemen that he suggested had suffered a seizure in the yards while operating their engines and later I think while being on duty. Now, those men were as he named them Kendall, Smythe, Bloodsworth and Kennedy. Now, you have had a search conducted into these and what does the information that you have been able to develop say on Kendall?

A The indications are that he took sick while he was on a yard engine working at North Toronto shed and while the engine was standing on the shed track a yardman on his way home noticed he didn't look well and he asked him if he was ill and Kendall said he was and the yardman drove him home.

Q And what happened to the engine?

A The fireman who was a passed engineman continued to work the engine. He phoned for another engineman and he worked the engine for two and a half or three hours until the spare fireman showed up. They couldn't find a spare engineman at the time but they did get a spare fireman over two or three hours later.

Q Smythe, what is your information on Smythe?

A The information on him is that he died of a coronary thrombosis on June 25, 1952. The yard engine to which he was assigned was not moving at the time. He had been on restricted service.

Q What do you mean by that?

A Well, he had had some difficulty medically and he was restricted to yard.

Q He had had heart trouble previously?

A Yes.

Q And the company knew that and allowed him to run a yard engine?

A That is correct.

Q Bloodsworth?

A Well, there were two Bloodsworths that we were able to find something on. One of them, William Bloodsworth of Toronto, had a history of gall bladder trouble and he was pensioned in September, 1949. He was on leave from 1936 to 1942 with gall bladder trouble.

Q Were you able to develop any information on him being ill on the engine?

aaa A-3

A No sir.

What about the other Bloodsworth you had?

A Well, to date we have not located any record but one of our officers who was working in the area at the time is familiar with the circumstances and his recollection is that --

Which Bloodsworth is this?

A Thomas Bloodsworth -- that Bloodsworth was working on the 930 Parkdale transfer and while preparing to go to work in the locker room at Lambton about 9.00 o'clock he suffered a seizure and was taken home. The incident did



not occur while he was on duty.

What about George Kennedy?

A . We have not been able to locate any records on him as yet but the search is still continuing.

Q . Mr. Fraine, if today an engineman suffered a seizure on a freight diesel moving over the road or collapsed or was incapacitated and the train was moving over the road at its normal running speed, a freight train, what would happen?

A Well, either the trainman or the fireman would stop the engine.

Q . If today that happened what would you expect the engineman to do if he became ill, based your experience?

A If he became ill I would expect him to shut off the throttle and if he was able, to stop the train.

BY THE CHAIRMAN:

Q You are speaking of a road switcher?

A Yes, a diesel, any road switcher, yes. It could be a switcher or an A type car body.

Q . Do the road switchers have these deadman controls?

A They are not in all cases coupled up in freight service. The device is on them but they are only kept operative on the units that operate in passenger service.

BY MR. SINCLAIR:

Mr. Fraine, you mentioned that if the

engineman was not able, I take it, to bring the train to a stop himself when he became incapacitated the head trainman or the fireman would stop the engine. Could he do that -- could the head trainman stop the engine?

A Oh yes, he has got two means of stopping available to him. He has got the emergency valve or he could use the automatic brake valve and put it in the emergency position.

Q And say the engineer suffered a seizure and became incapacitated immediately without warning just as the freight train was going through a station and with a lot of people on the platform, would there be any possibility of the train veering into the people on the platform?

A No, it would not derail just because the engineman suffered a seizure.

Q Now, following up the questions of the Chairman to you, Mr. Fraine, in regard to this matter of operation of these freight diesels, say the fireman was removed from the freight diesels and the engineman suffered an illness, an incapacitation, a seizure or a blackout, what would happen?

A Would you repeat that please?

Q Say the fireman was removed from the freight diesels and the engineman suffered a blackout or a seizure or a complete incapacitation, what would happen?

A Well, I would say the trainman would stop the train.

Q And if the firemen were removed from these diesels, what would the company do if anything with regard to additional protective devices?

A Well, I don't know that anything is necessary but I think probably they would put a deadman control on as an extraordinary precaution.

Q Why do you say you don't know if anything is necessary? On what do you base that?

A Well, we have been operating steam engines for years with only two men on them and they have never had them. The record does not indicate that you need a device to take over in the event that the engineman suffers a seizure.

Q When you say you have been operating steam engines for years with two men, what kind of steam engines?

A Well, in passenger service there are only two men on a steam engine.

BY THE CHAIRMAN:

Q You mention that this deadman control equipment is on road switchers and A units but it is not connected up in freight service?

A That is correct, sir. The device is, as I understand it, under the floor of the unit but the pedal is not attached to it.

Q Is that all that is involved, putting the

pedal on it?

A Pedal and some levers that connect to it.
There may be some instances where a valve needs to be put into the piping. It is not a major thing.

BY HON. MR. McLAURIN:

Q Assume we have two men on a diesel, the fireman or helper is removed, and you have the trainman and the engineer. That trainman is on the diesel at all times while it is moving except, I take it, when the head trainman is out doing some switching?

MR. SINCLAIR: That is right, sir.

HON. Mr. McLAURIN: And there could be some lengthy periods when on road traffic the only person in the diesel would be the engineer during that period when the head trainman was throwing switches?

MR. SINCLAIR: Yes, sir.

BY HON. MR. McLAURIN:

Q Otherwise at all times there would be two men in the unit, the engineer and the head trainman?

A That is right.

BY MR. SINCLAIR:

Q And what is your comment, Mr. Fraine, if any, on the time when it is moving, when the trainman is out throwing switches, what is the situation then?

A That is necessarily a slow movement. It is a

switching movement and the other crew members would be in the immediate vicinity so that in any event the engineman if he was stricken under those circumstances would not create a serious situation. Action could be taken by the other members to stop the movement.

BY THE CHAIRMAN:

Q Well, in that kind of a situation would you think it advisable or would you think it not that you should have a deadman control on the engine?

A Well, based on my experience and the information available in the records, I do not think it is necessary, no.

BY MR. SINCLAIR:

Q Mr. Fraine, yesterday you mentioned protective devices on diesels and their application and what occurred and when they are applied the loss of power. Now, who had the responsibility for attempting to recover the power by re-setting of the protective devices?

A The engineman.

Q And today who resets the protective devices or attempts to recover power?

A Well, I would say that in circumstances where the train does not stop the fireman is usually the man who does it if he is capable.

Q Pardon?

A If he is capable; otherwise he would report

back to the engineman and receive instructions.

Q Do you know whether firemen are or are not capable of recovering devices generally?

A I think most of them are, yes.

Q Is it a difficult thing?

A No, I don't think it is difficult for a man to get instructions on how they operate and then be able to operate them.

Q Today if a protective device applies and the engine is, say a four-unit diesel working full out, eighth notch and pulling as hard as it can up a grade and a protective device applies, say a low lube device which shuts the engine off, what would happen?

A I would say the train would come to a stop. There may be a very rare occasion when it would not but I have been on some of these locomotives when we were travelling between six and ten miles an hour and if one of the units had ~~come~~ gone out I am satisfied we would have stopped and quickly.

Q Would you have stopped before somebody could have gone to the unit wherever the protective device was and tried to recover it?

A Yes sir.

THE CHAIRMAN: Are you leaving that?

MR. SINCLAIR: Yes, but I would be very obliged to you if you wish to ask something on it.

BY THE CHAIRMAN:

Q If you didn't have a fireman but you had your head trainman and the alarm went off on one of these devices and the train didn't stop what would the engineer do if anything? What should he do?

A Well, I don't think he would send the head trainman back. That is not part of the head trainman's duties. The head trainman is not an assistant to the engineer in the sense that the fireman is and I am satisfied that if that sort of situation developed there would be very likely difficulty between the organizations involved.

BY MR. SINCLAIR:

Q What do you mean by that, Mr. Fraine?

A Well, that function has never been part of a head trainman's function.

BY THE CHAIRMAN:

Q Well, then, how is it proposed to handle that situation?

A The train should proceed, if it can, sir, to a convenient place at which to stop and the engineman reset the device or under the circumstances where it stops he would just go back and reset it. But there are occasions where there is ample power on the train when a device would operate that the train could continue for some distance without

requiring the power of that unit so that the engineman could gauge where he wants to stop to reset it and whether he had a meet at the second siding in advance of where he was or whether the ~~engine~~^{train} was due to be inspected at two or three sidings in advance, depending on his knowledge of ~~their~~^{the} conditions, of where he was and where he might think he could go. But in any event he could certainly stop at the next station and reset it.

Q Then, if I follow you correctly, the only difference between having a fireman and not having a fireman would be that in some circumstances there would have to be a stop of the train while in the other case the train need not stop?

A Yes, broadly speaking that is right.

BY HON. MR. MARTINEAU:

Q When one of those safety devices starts working must not the engineman repair it or do something about what caused the device to operate?

A Well, there are occasions, sir, when it cannot be reset, that is, it is there to protect the engine and if you start the engine up after resetting it and it cuts out again then the instructions are that you should leave it alone and you just don't have that unit.

Q If the engine, we will say, is hot, the device should not be reset and started again, it should be allowed to cool?

A Yes, there is one unit or one manufacturer's

make of unit where the engine returns to idle with a hot engine and in that case you have to cool the engine down before you restore it. So if you can keep the train moving you would be in effect cooling the engine while you went to the place where you were going to reset it. Some of the other **units** do not shut the engine down, they just give an alarm that the engine is over the temperature but they do not shut it down. But in those cases the other devices on the engine like the low lube would take effect before you could damage the engine. In other words, the viscosity of the oil would be affected by the heat of the engine to the extent where you could not ^{produce} ~~reduce~~ the pressure and the low lube device would take over.

BY MR. SINCLAIR:

Q Does it shut the engine down?

A Yes.

Q Mr. Justice Martineau's question, if I understood, Mr. Fraine, was if, say, the ground relay alarm should be applied and shuts the power off before you can reset the device and have the engine functioning again and power, do you not have to make some repairs to what caused the alarm to go off in the first place?

HON. MR. MARTINEAU: That was my question, yes.

THE WITNESS: No sir. The engineman is not expected to make repairs. There may be an occasion

where that device would be actuated -- I am out of my field here -- a defective fuse, he could arrange for that change, but as far as repairs to the equipment are concerned he is not expected to do it.

BY HON. MR. MARTINEAU:

Q Suppose there is only one unit and the engine overheats and he gets the warning, what does he do?

A Well, if the engine returns to idle he would stop right there and if the engine did not return to idle, if it was of a make of which the engine did not return to idle, he would probably proceed to the first siding and get clear of the main track while he cooled the engine.

Q But after he has brought the engine to a stop what does he do in such a case?

A Well, that would depend on the circumstances. In some cases the overheated engine could be caused by the shutters being stuck or the fan not operating, things of that nature. He could manually operate the shutters and he could manually operate the fan if it still continued to operate on manual.

Q Well, if one of the devices stops operating, what do you mean the engineman will send the helper to reset the device?

A I probably should have qualified that by saying

reset it if it would reset in the correct position.

BY MR. SINCLAIR:

Q Mr. Fraine, do you mean that an alarm sounds and the engine loses power and he notices it on his ^{load}~~road~~ meter on his control panel, and he says to the fireman, "Go back and see what is causing that, and see what you can do about it." And if it was a hot engine the fireman today would go back and probably try to put the fan to manual and check the shutters -- would that be what would happen?

A Yes.

Q And then let the engine cool?

A Yes.

Q If it was the ground relay he would try to reset the device and see if the traction motors would take the power that was being sent down to them, is that right?

A Yes, he would attempt that.

Q And if it kicked out again he could try it twice and he would come back and tell the engineman it would not reset, is that so?

A That is right.

Q If it was a low lube he would try it once and if it kicked out again he would come back and say to the engineman: "It is kicked out again and nothing can be done." Is that what happens?

A Yes, and then the engineman contacts the master

mechanic through the despatcher.

BY HON. MR. MARTINEAU:

Q So the helper has not only to reset, he has got to do more than that in such case?

A With a hot engine, yes sir, he might be able to do something.

BY THE CHAIRMAN:

Q And that might be done while the train continues to move over the road?

A Yes, it might.

Q And if there were no helper there it would simply mean that if the engineer was going back as the only man in the cab qualified to inspect he would have to stop the train?

A That is correct, sir.

Q That is the difference?

A That is the difference. Stops for that purpose would not materially affect the operation of the railway.

Q Well, we have heard before about what happens in the case of an unscheduled stop and what the duties of the train crew are?

A Yes.

BY MR. SINCLAIR:

Q Mr. Fraine, just to complete it at this point on the record, with your permission, Mr. Chairman, what causes unscheduled stops on the railway?

A There are a variety of things that cause unscheduled stops.

Q Can you recall them?

A Well, flagging by either a preceding train or maintenance of way forces, signals at stop --

Q That is fixed signals at stop?

A Yes, fixed signals at stop. Trains stop because of difficulty with their own train -- overheated journals, sticky brakes, things of that nature, crossing accidents, efficiency tests --

Q What is an efficiency test?

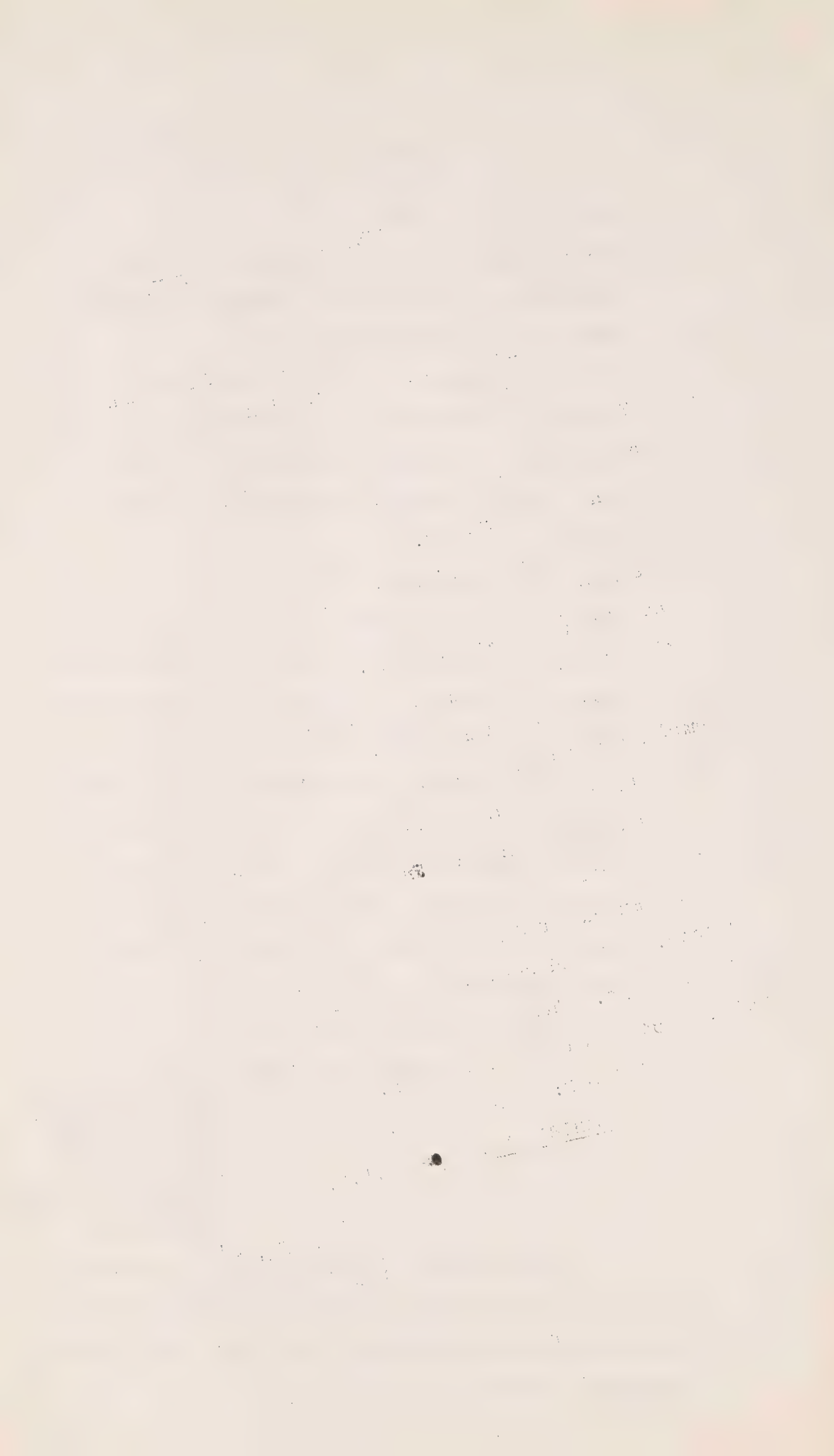
A Well, it is a test made by the railway officers to test the observance of rules by train service employees and they are carried out without the knowledge of the employees being tested.

MR. SINCLAIR: Mr. Fraine took off the number of efficiency tests on the Eastern region for the months of January, April, July and October, 1955 and January, April, July and October, 1956. These are efficiency tests which required the train to stop.

THE CHAIRMAN: EXHIBIT 110.

EXHIBIT No. 110:- C.P.R.,
Efficiency tests
made by company's
officers during
representative
months - 1955
and 1956 requiring
unscheduled stopping
of trains.

MR. SINCLAIR: Exhibit 110 is a statement entitled "Efficiency Tests made by Company's Officers during representative months -- 1955 and 1956, requiring unscheduled stopping of trains."



BY MR. SINCLAIR:

Q Are all efficiency tests made, do they all stop the train, all the efficiency tests?

A Oh no, we make tests that do not involve stopping the train but these ones here are those that involve stopping the train. There are other types of tests made.

Q I notice on this Exhibit 110, which consists of three sheets, 1 and 2 are the records of the efficiency tests, and this is throughout the Canadian Pacific system, being Eastern region, Prairie region and Pacific region, and sheet 3 sets out how the efficiency test is conducted to test the rule that the test is being used to determine the reaction of the crew to?

A That is right, it is to observe rules observance.

Q Have you got a total of these stops in any of these months, Mr. Fraine?

A I have not a grand total but they would ^{average} be 337 a month for the eight months.

Q In each case the train would have to stop?

A That is right.

Q I believe you expressed your opinion yesterday as to whether unscheduled stops were hazards. I am not certain of that and I think with your permission I will ask you again. I think you did with respect to some of your observations where there were unscheduled stops. But in

your opinion is an unscheduled stop of a train hazardous or is it not?

A No, it is not hazardous.

MR. SINCLAIR: Now, I wish with your permission, sir, to move on to another point. I thought perhaps we could take five minutes.

THE CHAIRMAN: Very good, I thought perhaps you wanted to get through. You would prefer a break?

MR.SINCLAIR: Yes sir.

Recess.

MR. SINCLAIR: We have heard something in the last few weeks of crossing accidents in which trains were involved and, Mr. Chairman, I am going to ask Mr. Fraine to deal with this matter now. First I have a statement which he had prepared.

THE CHAIRMAN: Exhibit 111.

EXHIBIT No. 111 - C.P.R. (system)
crossing
accidents --
1956.

MR. SINCLAIR: This is Canadian Pacific Railway (system) crossing accidents -- 1956.

BY MR. SINCLAIR:

Q Just looking at Exhibit 111, Mr. Fraine, I notice that this covers all classes of trains in the first group and freight trains also in the second group?

A That is correct.

Q Now, taking all classes of trains first, please, total number of accidents?

A 684 and the number of accidents per million train miles is 12.76.

Q Now, you have comments as to these accidents, certain types of them. Would you please give them to the Commission?

A Well, 185 of the mishaps or 27 per cent were cases in which the highways vehicles hit the train.

Q Do you have any examples of that?

You have, I think?

A Yes, I have. We had in May of last year at St. Martin junction in Quebec an automobile struck

the sixteenth car behind the engine of a movement which was proceeding eastward at two miles per hour over the crossing. We had another occasion --

BY HON. MR. McLAURIN:

Q The time of that?

A It was at 1.05 a.m. and the weather was cloudy, fair visibility.

BY MR. SINCLAIR:

Q Yes?

A We had another one that occurred in August of last year near Shaunavon, Saskatchewan.

Q What time?

A 10.05 p.m., train proceeding at 4 to 5 miles an hour over the crossing was struck **by** an automobile 26 cars back of the engine. Those were both unprotected crossings.

Q That is where the vehicles hit the rolling stock of the company. Have you examples where the trains struck the highway vehicles?

A Yes, in March last year near Belleville --

Q That is Ontario?

J.N.Fraime

A In Ontario -- an extra west struck an automobile even though the brakes were applied in emergency.

Q How fast was the train going?

A The train was going 25 miles an hour.

Q And the time of the accident was 7.15 p.m. according to my note?

A That is correct and the vehicle speed was estimated at 15 miles an hour. We had another one at North Bay in November last year, a yard engine proceeding across at two miles an hour struck an automobile on the crossing and the driver said afterwards that he had failed to notice the engine approaching.

Q Now, Mr.Fraime, the next one on Exhibit 111 -- what would you say of those examples you have given, are they typical from your experience of crossing accidents?

A I would say so, yes.

Q Take your next group in your comment under all classes of train. Would you please refer to that?

A In that case there were 134 or 19.6 per cent that occurred where protection such as gates, flashing lights, et cetera were provided.

Q Have you any examples of those?

A Yes.

Q Would you give them to the Commission, please?

A Yes, at Saint John, N.B. at 12.47 a.m. in September last year train 951 proceeding

J. J. Fraine

west at five miles an hour, an automobile ran into the third car behind the engine. I have a note there that the accident was caused by a failure of brakes on the automobile.

Q Any other example like that at protected crossings?

A Yes, we had one in November last year which occurred at 2.05 a.m. at Renfrew.

Q That is in Ontario?

A In Ontario -- train 952 proceeding at 15 miles an hour and the automobile ran into the side of the train between the sixty-eight and sixty-ninth cars behind the engine.

Q Now, to complete it you have certain examples where at protected crossings ^{trains} hit the vehicle instead of the vehicle hitting the train.

A Yes.

Q Would you give those to the Commission?

A Yes, one occurred in May last year at 12.05 p.m. at Weston, Ontario which is just north of Toronto. Train 1953 travelling 40 miles an hour, an automobile approached the crossing and was struck by the train. My note is that the wig wag and the bell at the crossing were in operation.

Q What was the age of the driver in that case?

A Seventy years of age.

BY THE CHAIRMAN:

Q Seventy?

J.H.Frairie

A Seventy.

BY MR. MUNDELL:

Q The driver of the car?

A Yes sir.

BY MR. SINCLAIR:

Q Next?

A The next occurred near Duncan, B.C. on Vancouver Island at 8.30 p.m. in November of last year. Train proceeding south at eight miles an hour struck a panel truck and the truck was only seen by the head end crew when it was 50 feet away. The brake was applied in emergency but the collision occurred nevertheless and the lady driver who was in the panel truck said afterwards that she was busy with a bag of laundry that had toppled off the seat of the truck and did not notice the train.

Q What kind of protection was on that crossing?

A Automatic alarm crossing bell.

Q Now, Mr. Frairie, on Exhibit 111 the second portion of that exhibit deals with crossing accidents involving freight trains only.

Would you deal with that?

A The total number was 299.

Q That is 299 crossing accidents in 1956 on the entire Canadian Pacific system in which freight trains were involved in crossing accidents, is that right?

J.N.Fraine

A That is right.

Q You have made a similar breakdown as you have made for all classes. Will you take the next ratio per million freight train miles? Will you take the next?

A The ratio per million freight train miles is 8.39 and 91 or 30.4 per cent of the cases were cases where the highway vehicle hit the train. 43 or 14.4 per cent occurred where there was added protection such as gates, flashing lights, et cetera.

Q Now, Mr. Fraine, you have some examples, I think you wish to draw to the attention of the Commission, I think you have two what you might call who drove in front of the train by these vehicles. Will you please do that?

A Yes, at 7.53 a.m. in February this year at Weston, Ontario train 964 was proceeding south at 25 miles an hour and an automobile approached from the west and followed two other cars across the crossing. The first two cars cleared the movement but the third vehicle was struck and damaged.

Q What side did that car come from, Mr. Fraine?

A The engineman's side.

Q And my note is that the automobile was badly damaged and the occupant was very seriously injured and died later in the hospital?

J.M.Fraime

A That is correct.

Q On February 27 this year you have another example I think you wish to draw to the attention of the Commission?

A Yes, this one occurred at 7.28 p.m. near Louiseville in Quebec, a westward train moving at 35 miles an hour and a truck approached the crossing at a speed which was not allow it to stop clear. It skidded and slewed into the ditch beside the train where it fouled the train. While they were making a reverse movement at the crossing --

Q The train was making a reverse movement after the accident?

A After this accident, yes. The train was making a reverse movement at the crossing and the crossing was being protected by the conductor and a constable and another car came along and was contacted by the rear car of the train. There were no personal injuries in either of those incidents.

Q Are these examples that you have been giving to us latterly or are they not typical of the types of crossing accidents that you meet in your work?

A I would say they are typical.

HON.MR.McLAURIN: It is safer to fly Canadian Pacific Airlines.

J.H.Fraine

MR.SINCLAIR: Very much, sir.

MR. LEWIS: Or T.C.A.

MR. SINCLAIR: I don't know about that.

Mr.Fraine has some material that he has developed for the Commission to demonstrate the relative stopping distances of trains and vehicles. This is two charts, one headed speed and stopping distance, page one is motor vehicles and page two trains.

THE CHAIRMAN: Will this be one exhibit?

MR. SINCLAIR: Yes.

THE CHAIRMAN: Exhibit 112. Is there any general description?

MR. SINCLAIR: Yes, speed and stopping distances motor vehicles and trains, page one being motor vehicles, page two being trains.

EXHIBIT No.112: Two-page document giving speed and stopping distances of motor vehicles on page one and of trains on page two.

BY MR. SINCLAIR:

Q Looking at Exhibit 112, Mr. Fraine, I notice on the first page of Exhibit 112 the speed and stopping distances of motor vehicles are shown and it shows the source at the bottom which is the motor vehicles branch of the Department of Highways for Ontario and you have got it from O'Connor's Highway Traffic Act and you have totalled the stopping distances with perfect four wheel brakes on best type of road surface under favourable conditions.

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1897

J.N.Fraine

Just before you comment on that on the second sheet of Exhibit 112 the speed and stopping distances of a 2000 ton freight train of 40 cars and that is shown as calculated minimum stopping distances with emergency brake application on straight level track with brakes in good condition on dry rail, now the source of this material is not on the exhibit, Mr. Fraine, I am sorry about that and I would ask the Commission if you would not mind writing in at the bottom of the second sheet the source. What is the source, Mr. Fraine?

A That is based on a calculation made from a formula ^{used} ~~made~~ by our mechanical department. The formula is in general use on railways on this continent for calculating braking distances.

Q Now, what is your comment on Exhibit 112, Mr. Fraine, please?

A Well, I think perhaps if we take an example of a train moving at 40 miles an hour and an automobile moving at 40 miles an hour it may be seen that the total stopping distance for the automobile is 115 feet which is less than the distance required for reaction and propagation of the brake on the train, that is, the reaction of the engineman and the brake taking effect on the train so that at those speeds if the head end crew of the train decided that the car

J.H.Fraire

is not going to stop then at that time it is impossible for them to do anything which will effectively control the train. You can work out similar examples throughout which would indicate that in all cases it is not possible to get a train stopped ~~to~~ clear ^{of} ~~out~~ the crossing or to materially reduce its speed.

BY THE CHAIRMAN:

Q On page one the patched areas are apparently designated "thinking" distances, and on page two "reaction and propagation distance". Is that supposed to be the same thing?

A There is a slight difference, sir.
The reaction and the thinking is the same but the propagation of an air brake on a train takes more time before the brake becomes effective throughout the train as a result of the air supply in the train line being exhausted.
It takes more time.

BY MR. SINCLAIR:

Q And on a vehicle it is a mechanical brake?

A Yes, it is actuated immediately the pressure is put on the brake pedal.

Q Mr. Fraire, based on the facts you have just described and the examples of analyses you have just made of crossing accidents that are set out in Exhibit 11 and also taking into account your observations from riding in the cabs of locomotives and freight trains would you please

give the Commission your opinion as to the what a fireman of a diesel can do with respect to crossing accidents?

A Well, I don't think the fireman or the head trainman or the engineman for that matter can do anything with respect to preventing crossing mishaps other than comply with the statutory signals, that is, ringing the bell and blowing the whistle.

Q In your opinion, Mr.Fraire, is there not something that the engine crew can do, the fireman, in particular we are concerned with now, here, that the fireman can do to reduce the severity of crossing accidents?

A I cannot visualize anything that he could do. I know from being on engines myself that approaching a crossing the thing that most of them do when it becomes apparent that the automobile is not going to stop clear is to pray that he gets right across because it is rather a nerve-wracking experience to be riding an engine and have somebody racing you to the crossing, wondering if he can stop and knowing you can't stop yourself.

Q Say you are going slowly and you get your brakes down on the train, would that not reduce the severity of the accident, in your opinion?

A I don't know what kind of speed you are thinking of.

Q Say we are going five or ten miles an hour?

A Well, even at five or ten miles an hour with a light engine the force of an impact between two vehicles is related to the speed and to the mass of the vehicle and a locomotive is a very heavy thing. So that when you multiply the mass times the velocity you will get a very considerable force being exerted by a moving locomotive at a slow speed.

Q And based on your experience, Mr. Fraine, are modern day automobiles constructed in such a way that they can withstand any force?

MR. LEWIS: I **will** admit that, Mr. Chairman.

MR. SINCLAIR: You are admitting that?

MR. LEWIS: No argument about that.

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THE CHAIRMAN: We **will** take judicial notice of that.

MR. LEWIS: You can take judicial notice of that. They are made practically of paper, Mr. Chairman.

MR. SINCLAIR: Thank you, Mr. Lewis.

BY MR. SINCLAIR:

Q Now, Mr. Fraine, what kind of a safety record have you on the Canadian Pacific?

A Very good.

Q Is it a matter that you give attention to?

A Yes sir, continually.

Q You say it is very good. What kind of bench mark or guide have you got to judge your safety record?

A Well, we record train accidents per million locomotive miles and we can compare that with other railroads on the continent for comparative purposes and we compare ourselves against ourselves from year to year.

MR. SINCLAIR: Mr. Fraine has prepared a statement, Mr. Chairman, which will be Exhibit 113 which shows employee negligence train accident ratios per million locomotive miles for the ten largest^t railroads in the United States and Canadian Pacific.

EXHIBIT NO. 113 -- Employee
negligence
train accident
ratios, per
million loco-
motive miles,
10 largest
railroads in
United States
and C.P.R.

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MR. SINCLAIR: The source of this material, Mr. Chairman, is shown at the bottom of Exhibit 113. For the United States railroads it is the Interstate Commerce Commission Bulletin No. 124 -- "Summary and Analysis of Accidents on Steam Railways in the United States subject to the Interstate Commerce Act" -- calendar year 1955, and for the Canadian Pacific it is based on the record of the company's safety department.

BY MR. SINCLAIR:

Q Is that correct?

A That is correct.

Q Now, just looking at this, Mr. Fraine, Exhibit 113, the first column shows the railroad, the second one shows the miles of first main track and the last column shows the ratio. Now, the ratio would be the number of accidents to millions of locomotive miles and the millions of locomotive miles are not set out in this exhibit but to show the size of the railroad you have put down there "First main track". Is that why you have that column there?

A Yes, that is correct.

Q And the largest railway by mileage shown on that is the Canadian Pacific with 17,000 miles of first main track. Now, when it is shown on the basis of locomotive miles are there any of these railways -- there are, I know -- what railways on that sheet would have more locomotive miles than Canadian Pacific?

100

100

1

55

A Pennsylvania.

Q That is the largest?

A Yes.

BY THE CHAIRMAN:

Q By "locomotive miles" you mean, I suppose, the number of miles travelled by locomotives?

A Yes.

MR. SINCLAIR: That is right, sir.

HON. MR. McLAURIN: The Pennsylvania.

BY MR. SINCLAIR:

Q That is the largest on the North American continent. The next is?

A New York Central.

Q Yes?

A And the next one is the Southern Pacific. The next is the Santa Fe.

Q That is the Atcheson, Topeka and the Santa Fe?

A Yes sir.

Q And the next?

A Canadian Pacific.

Q And are the Canadian Pacific and Santa Fe on locomotive miles just about the same?

A Canadian Pacific is 68.6 million and the Santa Fe is 69.2 million.

BY HON. MR. McLAURIN:

Q What is the Pennsylvania?

A 106.4 million.

Q As against 68.6 million?

A Yes, 68.6 million.

BY MR. SINCLAIR:

Q And the New York Central, I think, Mr.

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Borntrager said has density about twice as great as the Canadian Pacific. What does your figure show?

A About one and a half here, 96.2. That is not a density figure, that is millions of locomotive miles. Density would have to be related to the miles of track.

Q Now, Mr. Fraine, looking down these ratios we find Canadian Pacific with a train accident ratio of 1.62?

A Yes sir.

Q This is in the third position?

A Yes sir.

Q What do you think of that record, Mr. Fraine?

A I think it is very satisfactory. There is not much difference between 1.52 and 1.62.

Q There is not much difference between the best on the North American continent and the Canadian Pacific?

A That is right.

Q Mr. Fraine, yesterday we were dealing with firemen's duties as set out in Exhibit 106 and you discussed that at some length. I wanted to ask you whether there was any parallel in the light of what you said a fireman today had to do on a diesel, whether there was any parallel in the assignment of train service personnel and the situation of a fireman on a diesel?

A Yes, there is. On a passenger train on which there is a working baggage car operating a baggage man

is employed and his responsibility is with respect to the operating rules, special instructions and so on **which govern** his service are the same as those of a trainman or fireman. If we don't have a working baggage car on a train we don't have the baggage man, that is, there is no work for him to do so we don't carry him merely because of the requirement imposed on him when he is there to **comply** with the operating rules.

Q Would the parallel case of the fireman today in your opinion be ^{or} ~~if~~ would it not that the fireman's assignment is **required on a steam engine** but a fireman is not required on a diesel engine and a baggage man is required when there is a baggage car and he is not required when there is no baggage car?

A That is right.

Q And he is not employed in the case of a baggage man where there is not a baggage car?

A That is right.

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J.N. Fraine

Q. Mr. Fraine, based on your experience, on your responsibility and your observation, in your opinion is the fireman required for the safe operation of freight trains with diesel power?

A. No sir.

Q. Why?

A. Well, I have considered that question from two angles: First from the point of view of look-out, I don't see that there is any necessity for an additional man in the cab on a freight train. The trainman is on the left-hand side, and the engine man is on the right-hand side. We have been operating steam locomotives in passenger service over the years under the same circumstances, and I therefore come to the conclusion that he is not required for look-out purposes.

Q. You said you were operating a steam powered train under those circumstances. Are you operating diesel trains on passenger service?

A. Yes, we have been for some time.

Q. Would there be any difference between the work requirement of the two men that were on steam train passenger service, and the work requirement of an engine man and a head trainman from a look-out aspect on a diesel?

A. Yes. On a hand fired passenger engine the fireman would be spending a good portion of his time up on the deck of the engine; and even with a stoker fired passenger steam engine he would be spending some portion of his time giving attention to the boiler, stoker, and so forth.

Q. Do you only have today steam hand fired engines where there are no crossings and no heavy volume of traffic? Do you pick the spots to which you assign your hand fired engines even today?

A. No. We have hand fired steam engines, quite a number of them operating in and out of Montreal on commuter trains, at comparatively high speed and over the road crossings, and through congested areas.

Q. You said you considered them from two aspects. You have mentioned the aspect of look-out. What was the other aspect you had in mind?

A. The other aspect was the question of the necessity for having an additional man on the train to look after such things as the operation of the train in accordance with its schedule or train orders. I just don't see that is necessary. There is a head trainman on the engine with the engineman, and of course the conductor who is in charge

of the train, and the rear trainman, are also checking train orders and schedules. As a matter of fact, in the ten trips I had three occasions where a conductor took over and stopped the train for one purpose or another. I am quite satisfied that four men on a freight train is ample.

Q. On the basis of efficiency, Mr. Fraine, in your opinion for the efficient operations of a freight train powered by diesel, is a fireman required?

A. No sir.

Q. Why do you say that? A. Well, he hasn't any function to perform on the locomotive that is necessary to be done.

MR. SINCLAIR: Mr. Chairman, with your permission, I wish now to turn with this witness to the aspect of arbitraries and mountain differential.

BY MR. SINCLAIR:

Q. First, Mr. Fraine, as I think you have already stated, one of the first functions of the fireman on the diesel was to assist the engine man. I thought the Commission should therefore have before it the duties of the engine man - that is the duties of the man who is responsible, and whom the fireman is to assist, with respect to taking over of various kinds of locomotives.

THE CHAIRMAN: Exhibit 114.

MR. SINCLAIR: This Exhibit 114 contains the duties of the engineman on taking over a diesel.

EXHIBIT NO. 114: Duties of engine men.

MR. SINCLAIR: As I recollect it, the duties of the engine man on steam engines are set out in the "Western Lines Engineman's Agreement"; but, unfortunately, sir, I have to apologize for not having it. I thought I had the agreement here, but I do not have it. With the consent of the Commission and my friend I will file that later. The Engineman's Agreement on the Western Lines sets forth the duties of the engine men on steam power, and that document pretty well speaks for itself. On the diesels these are special duties which are enumerated for the enginemen, both preparatory and final.

THE CHAIRMAN: What is the source of the information contained in Exhibit 114?

MR. SINCLAIR: The source of Exhibit 114 is bulletins of the company. They were issued after consideration and revision, I think in November, 1956, and they are a revision from the duties formerly performed by the enginemen for preparatory and final inspection.

J.N. Fraine

BY MR. SINCLAIR:

Q. Would you comment on these please, Mr. Fraine?

A. Sheet one covers a run through point, and it gives what the engine man is essentially responsible for: That is, taking charge of a locomotive at a run through point, he has to examine the work report of the incoming engine man.

Q. Did you say at a run through point? The first sheet in the document I have is taking charge of a locomotive at a maintenance point.

A. I must have a different sheet.

Q. The first one is at a maintenance point.

THE CHAIRMAN: We had better speak about the same thing. Has the witness the correct copy now?

MR. SINCLAIR: I have given it to him, sir. I think his copies are not in the same order as I prepared the exhibit.

THE CHAIRMAN: This is preparatory duties at a maintenance point.

MR. SINCLAIR: That is right sir.

THE WITNESS: He has to apply and release the air brakes; he satisfies himself that they are functioning properly. He operates the communicating signal to make sure that it is

in working order. He tests the lights, including cab, hood, classification and head light, and back up light, to see that they are all in working order. He has to know that the flagging equipment is on the unit and in good order. He has to know that the fire extinguisher is in place in each unit and the seals are not broken. The purpose of that is as long as the seal is not broken the fire extinguisher is fully charged. He checks the hand brakes to ascertain if they are properly released, and he checks the bell and whistle to see that they are in working order.

BY THE CHAIRMAN:

Q. What is the communicating signal?

A. That is the appliance for transmitting a signal on passenger trains to the locomotive; that is the cord that you see the conductor pull; this is the portion of it that is in the locomotive.

BY MR. SINCLAIR:

Q. Are there any other duties than those, Mr. Fraine? Does that set out all the duties of an engine man taking over a diesel at a maintenance point?

A. Yes, that is correct. He reads his bulletins and checks his watch. In so far as the locomotive is concerned, that is what he is required to do.

Q. The second sheet of Exhibit 114 deals with the duties of an engine man before leaving a locomotive diesel when going off duty, at other than a run through point. That is, at other than a run through point he would have the duties enumerated on page two. Are there any of those duties in particular you wish to deal with?

A. In particular he must see that the brake is properly applied, and the chain to block the wheels, as provided. He has to remove the levers so that they could not be inadvertently knocked by the cleaning staff or other people.

Q. That is the control levers in the cab?

A. The control levers, and the reverse handle. And he has to open the generator field switch.

Perhaps I should read number 3:

"Except where shop staffs or other authorized persons are in attendance, if the unit is to be left outside or in an unheated engine house in freezing weather and terminal heating facilities are not available: -- he must --

(a) Know that all doors and windows are closed.

"(b) See that the stand-by system of the steam generator is in operation in accordance with instructions."

Q. All of these include the company form M.P. 74, when an engine is left running?

A. Yes.

Q. Now the next section on page 2 of Exhibit 114 is when the engine is shut down. Is there anything in particular you wish to draw to the attention of the Commission, or is that pretty much the same?

A. In that instance he releases the air brake and applies the hand brake firmly; he removes the valve handle and blocks the wheels with a chain when provided.

BY THE CHAIRMAN:

Q. Have you any comments on it, or does it speak for itself?

A. It pretty well speaks for itself, sir.

BY MR. SINCLAIR:

Q. Now with respect to page 3 of Exhibit 114. That deals with the duties of an engine man when taking charge of an engine at an outside point where no shop staff is on duty or available. I think that pretty well speaks for itself, does it not Mr. Fraine?

A. Yes.

Q. Page 4 of the exhibit has to do with the duties of an engine man when taking charge of an engine at a run through point. That speaks fully as to his duties. Later on in the page you will see "Duties of engine men before leaving the locomotive when going off duty at a run through point." All these sheets show the completed form M.P. 74.

THE CHAIRMAN: He does not set the brake or anything like that?

MR. SINCLAIR: He comes in with the brake set up at stop, and that is the situation.

BY MR. SINCLAIR:

Q. Is that correct, Mr. Fraine?

A. Yes; he turns the locomotive over to the other engine man.

Q. And the other engine man climbs on?

A. And starts at the front again.

MR. LEWIS: Just so that we can keep our words the same, Mr. Chairman, am I right in noting my page one as preparatory, page two as final, page three as preparatory, the top of page four preparatory, and the second half as final?

MR. SINCLAIR: That is correct.

BY MR. SINCLAIR:

Q. Now Mr. Fraine, in the light of those

- 2360 -

duties of an engine man, what has the fireman to do?

A. The engine man doesn't require a fireman to assist him to perform those duties.

Q. Does he do any of the duties listed in Exhibit 114 - that is "he" being the fireman?

A. He might do it if it were delegated to him by the engine man in some instances.

THE CHAIRMAN: I thought we had an exhibit which indicated that the fireman did at least some of these preparatory duties.

MR. SINCLAIR: Yes, we have had that on a number of occasions. I was going to ask Mr. Fraine from his observations what was the general practice as to whether an engine man did assign, or did not assign. You will also recall that we had some evidence that there was complete duplication of the work that the engine man did, by the fireman; that is, the fireman did it too.

BY MR. SINCLAIR:

Q. Mr. Fraine, with the Chairman's permission I would like to put this question to you: From your observations what generally happens? Does the engine man or does he not assign some of these preparatory checks to the fireman?

A. Yes, he does.

THE CHAIRMAN: I thought we had an exhibit on that?

MR. MUNDELL: Exhibit No. 7, sir.

MR. SINCLAIR: No. 7?

MR. MUNDELL: Part of it.

MR. SINCLAIR: Exhibit No. 7 gives the duties of the fireman since 1954. The first sheets give the historical development of the duties of the fireman, and their elimination in 1954. Page 6 of that exhibit gives certain instructions as to the duties of a fireman.

MR. MUNDELL: Pages 6 and 10.

MR. SINCLAIR: Yes, 6 and 10, being the Eastern and Western Lines.

THE CHAIRMAN: That is what I had in mind.

BY MR. SINCLAIR:

Q. In road service Mr. Fraine, are the firemen, whether on passenger trains or on freight trains, paid on a time basis?

A. Do you mean between terminals?

Q. Yes.

A. Well, it is a combined basis; they are paid on the basis of time or miles, whichever is the greater.

Q. Generally speaking, on the railway and in your experience do the men generally get both their time and overtime too, or is

the run generally made within the eight hours in freight, and whatever it is in passenger service?

A. I haven't made any check on that, but I would feel that in most cases they will be paid on a mileage basis.

Q. After they come into the terminal, or before they take the train out of the terminal, which is their initial and terminal time, that is a minute basis, is it not, in road service?

A. Yes.

Q. And on top of that, at the commencement and finish of the run, there is the preparatory and final inspection, which is on an arbitrary basis?

A. That is right.

Q. And does not apply on a minute basis at all, under the present schedule?

A. No, it is paid whether or not there is work performed.

Q. Mr. Gossage has stated the proposal of the company on this matter, and you have heard it. Have you anything to add to the company's proposal as to arbitraries and what should be done with them, and how the men should be paid for work that the company requires them to do? Have you

anything to add to his comments on that?

A. No, I agree with what he said.

MR. SINCLAIR: Mr. Chairman, I have one matter that M . Gossage did not deal with, and which I wish to direct to the attention of the Commission because it is open; I refer to the arbitrary for work trains. The work train arbitrary can be found in Exhibit 1, Article 8(B) page 21. I say that is open for comment and finding by this Commission, as set out by Exhibit 1 (A) which shows Article 8 of the Agreement still open. That reads:

"Firemen on work trains when laid up at any other than the regular roundhouse with regular shop men, will be allowed one hour pro rata after laid up by conductor to cover necessary repairs and get engine ready. Except when fireman is held or (after laid up by the conductor) to watch the engine, he will be paid on continuous time, and the one hour arbitrary pro rata allowance will not apply."

BY MR. SINCLAIR:

Q. Would the article as now set up apply to the diesel on a work train?



A. Yes sir.

Q. And it would also apply on steam?

A. Yes.

Q. And on a diesel, would the fireman have to do any repairs?

A. No, there would be nothing for him to do.

BY HON. MR. MARTINEAU:

Q. What is a work train?

A. A work train is a train employed in the company service, in maintenance work, unloading ties, spreading ballast and things of that sort.

BY MR. SINCLAIR:

Q. It is a train carrying railway materials and supplies for maintenance work of the railway?

A. That is right; it is completely non revenue.

Q. That means it carries company materials only?

A. Yes.

Q. What is your comment on this? What do you think should be done with this arbitrary as set out in Article 8, page 21, of Exhibit 1, Mr. Fraine?

A. I consider it should be eliminated.

Q. What do you say should take its place, if anything?

A. A provision that firemen on steam engines

under those circumstances would be paid for the time required.

Q. And on a diesel?

A. There would be no time.

Q. There is one other item I wish to refer to, namely Article 15; this is another arbitrary...

THE CHAIRMAN: Mr. Sinclair, I don't know that I appreciate all that is involved in this; in fact I am sure I do not. For instance, "a fireman on a work train" -- supposing it is a steam engine -- "when laid up at any other than the regular roundhouse with regular shop men" -- that is at any place except that particular spot -- "will be allowed one hour pro rata --"

BY THE CHAIRMAN:

Q. I presume that is the pro rata rate of pay?

A. Yes.

Q. "After laid up by conductor --" what does that mean?

A. It means when the day's work is completed the conductor puts him and the crew off duty in so far as the train itself is concerned.

Q. The train may be on the siding or any place?

A. They usually put it on a siding, yes; and when the conductor puts the train off duty, in so far as the train itself is concerned, the fireman is allowed an additional hour

pro rata for work which might be involved
in greasing or repairing the locomotive.

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Q And that rule has been there for a long time, I suppose?

A Yes sir, I would not like to say how many years but it is a well-established practice.

Q You don't know anything about what is usually involved in circumstances of that kind?

A Well, the situation is this, that as the steam motive power improved ~~there~~ was less to do, that is, the modern steam locomotive does not require in usual circumstances too much to be done to it if it is laid up and the company's position is that we are prepared to pay for the actual time that is required to do whatever work is necessary to be done to it and not by arbitrary. He should not be paid for an hour where it is actually 15 minutes or an hour and fifteen minutes. It should be on a time basis.

Q In other words, you are saying that when this rule originally came into existence there must have been considerable for the fireman to do and instead of requiring somebody to take some time it was settled on an hour basis and it must have been an average basis of some kind that was reasonable?

A Yes.

Q And you say that since that time the work called for by reason of improvement of locomotives has gone down and one hour is excessive and in the

case of a steam engine your proposal is to take the time actually required?

A Yes sir.

Q And who would take that time?

A Well, that could be recorded in several ways. Usually when we have a work train working in those conditions there is an agent or an operator on duty. The engineman would be on duty if the fireman was and the conductor reports himself in at night as to what time he is laid up so that the despatcher knows he is out of the road and he can annul his orders and these work train ^{programs} ~~parties~~ are given sometimes direct supervision by the company's officers.

Q You say in the case of a diesel there would be nothing to do?

A That is right, sir.

Q Not even what we have just been through under final duties for the day as far as firemen are concerned?

A No sir.

MR. SINCLAIR: Article 15, sir, of Exhibit 1, is where a fireman does nostling work where an engine is going to be put into a shed or roundhouse and this covers both steam and diesel again.

HON. MR. McLAURIN: What page is this?

MR. SINCLAIR: Page 26, sir, of Exhibit 1, and on Exhibit 1-A it is on page 8 right below the Article 8 we have just dealt with, Article 8B. Article

15 is the minimum allowance for taking engine in and taking engine out of shed where fireman is required to do such work where there is no hostler. I should read it, with your permission:

"When the miles on any run and service performed make 100 miles or more, fireman will be paid a minimum of 15 minutes at rate for class of service for putting engine in, and 15 minutes for taking engine out **at points** where fireman is required to do such work, but when it takes more than 15 minutes, actual time will be paid for such work. Time so occupied will not be included in time covered by day's work."

BY MR. SINCLAIR:

Q What is your comment on that, Mr.Fraime?

A Well, again the arbitrary feature should be removed and the fireman paid for the actual time required to perform the work.

MR. SINCLAIR: I should also point out , sir, that the Western Agreement under the same type of rule is 30 minutes. That is, the Western Agreement Exhibit 2 and I think the article is 15 again.

THE HON.MR.McLAURIN: You mean the Prairie and Pacific Lines which is western?

MR. SINCLAIR: Yes, Prairie and Pacific in Exhibit 2, page 30, of Exhibit 2, you will find 30 minutes.

BY THE CHAIRMAN:

Q Well, am I mixing two things up here?
Article 15, take the case where it applies, the fireman gets his minimum of 15 minutes there and then **does** the arbitrary 15 minutes or whatever it may be of final duties apply **after** that, on top of that?

A I would think they would perhaps run the other way, sir, that when he arrives at the terminal he would get his terminal time on the present basis plus his inspection time plus this hostling time.

Q That is what I mean.

A Yes.

Q Except that it would be in the other order?

A It would depend on where the engineman inspected the engine, whether they put it inside first or whether they inspected it outside and then put it in but in effect it would be cumulative.

MR. SINCLAIR: In starting the engine at the start of its run in the morning he would start it by coming under the hostling rule.

THE CHAIRMAN: Under this rule?

MR. SINCLAIR: Yes, that is, he would get his preparatory time in, then his initial terminal delay and then his running time and in the east while it is 15 minutes in the west it is 30.

BY MR. SINCLAIR:

Q And your proposal on that, Mr. Fraine, in respect of diesels is what?

A I would say either diesel or steam that it should be removed and paid on the basis of time required.

BY THE HON. MR. McLAURIN:

Q Your rule would apply right across the board regardless of being diesel or steam?

A Yes.

HON. MR. McLAURIN: And the railways say class and hour.

MR. SINCLAIR: Yes, and all classes of service. Now, that is all I have for the witness on arbitraries. I have just the mountain differential

and I have here a statement, Exhibit 115.

EXHIBIT No.115: C.P.R., comparison of train times of freight trains and relationship to equivalent basic day at $12\frac{1}{2}$ m.p.h.

MR.SINCLAIR: Exhibit 115 is entitled "Canadian Pacific Railway, comparison of train times of freight trains and relationship to equivalent basic day at $12\frac{1}{2}$ miles per hour," that is the equivalent basic day equivalence in freight service.

BY MR. SINCLAIR:

Q Is it not, Mr. Frairie?

A Yes, sir.

MR. SINCLAIR: This, I should say also to the Commission incorporates a number of subdivisions including the Galt, I think it was in the east, and one on the prairies, I think the Swift Current as requested by Mr. Lewis, I think, in Exhibit 3.

BY MR. SINCLAIR:

Q Now, what is your comment on this Exhibit 115?

BY THE CHAIRMAN:

Q Will you first tell us what the equivalent basic day at $12\frac{1}{2}$ miles per hour means?

A Well, that means this, sir, that on a mileage basis eight hours or a hundred miles is a day's work. That is the unit day and if you divide the eight hours into the 100 miles you get $12\frac{1}{2}$ miles an hour so dividing $12\frac{1}{2}$ miles an hour into the mileage of the train runs which vary on these various subdivisions we arrive at a

- 2373 -

means of comparing the subdivisions on a realistic basis. That is, it is difficult to relate train time over 131.9 miles subdivision with train time over a 103.5 mile subdivision. You get into ratios and proportions and one thing and another and this is a means of reducing it all to the same basis.

BY MR. SINCLAIR:

Q Taking the first one, Farnham -- Megantic, that is, Farnham, Quebec to Megantic, N.B. --

A No, Megantic, I think is in Quebec.

HON. MR. MARTINEAU: Quebec.

MR. SINCLAIR: Thank you, sir. I have one for Ontario and I have it 100 per cent.

BY MR. SINCLAIR:

Q It is close to the border, isn't it?

A It is at the border.

Q And Smiths Falls, Ontario to Chalk River, Ontario?

A That is right.

THE CHAIRMAN: Well, it says that.

MR. SINCLAIR: WELL, it doesn't say where some of these places are, sir. What Mr. Fraine has done he has some in the Atlantic provinces, some in the prairies and some in the mountains.

THE CHAIRMAN: That is very clear.

MR. SINCLAIR: Very well.

BY MR. SINCLAIR:

Q Mr. Fraine, what is your comment on this?

A I have worked out on this exhibit the percentage of the equivalent basic day for the slowest and the fastest freight train on each subdivision concerned.

Q That is, symbol trains?

A Yes, symbol trains. I should perhaps say that Farnham-Megantic is not one subdivision; it is two subdivisions but it is a one-train run. The crews run through. On that one the fastest train occupies 54.4 per cent of the basic day and the slowest train 63.1 per cent.

BY HON. MR. MARTINEAU:

Q What does that mean, Mr. Fraine?

A Well, that means that the equivalent basic day at $12\frac{1}{2}$ miles an hour is ten hours and 34 minutes.

MR. LEWIS: I was reading it 10 minutes and 34 seconds and I couldn't for the life of me figure it out.

THE CHAIRMAN: Well, we are making our own rules.

THE WITNESS: They are if you are running a transit, Mr. Lewis but if you are working on the railroad it is hours and minutes.

MR. LEWIS: I am working on the railroad.

THE WITNESS: That would mean that overtime would not apply until after ten hours and 34 minutes.

BY THE CHAIRMAN:

Q Just translate that for me, will you? The distance is 131.9 miles?

A Yes sir.

Q You say the equivalent basic day at $12\frac{1}{2}$ miles per hour is ten hours and 34 minutes. I am sorry, I am not following this. Does that mean that travelling 131.9 miles at $12\frac{1}{2}$ miles an hour would take ten hours and 34 minutes?

A That is exactly what it is sir.

MR. SINCLAIR: It shows here what it is and what percentage it is for the fastest and slowest symbol trains.

THE CHAIRMAN: The fastest taking five hours and 45 minutes which is 54.4 per cent of this measure and the slowest six hours and 40 minutes or 63.1 per cent?

MR. SINCLAIR: Yes, and the purpose of all these various examples is to compare them with sheet 2, mountain subdivision, where the mountain differential applies throughout **that** subdivision and to the Thompson subdivision where throughout that subdivision we have a valley differential. The purpose of the exhibit is to show the other parts of the railway situation where there is no differential of any kind, valley or mountain differential but just straight rates, to compare them with the portions of the equivalent day, to compare them with those places where there is a

valley and mountain differential.

BY HON. MR.MARTINEAU:

Q Let me get this. Does it mean that on the Farnham-Megantic run the employees get paid their full day even though they work only 54.4 per cent of it.

A They get paid their full basic day ---

Q Of eight hours?

A They get paid their full basic day of 100 miles plus 31.9 miles or approximately one-third of another basic day for working on train 951 for five hours and 45 minutes.

Q They don't get overtime but they get additional pay for the two hours and thirty-four minutes which exceeds the eight hours, is that it?

THE CHAIRMAN: For the 31.9 miles that exceeds 100 miles.

MR. SINCLAIR: That is correct, sir.

HON.MR.MARTINEAU: Would that not be two hours and 34 minutes?

MR. LEWIS: The nominal two hours and 34 minutes.

MR. SINCLAIR: I think the answer is yes, it is exactly that.

THE HON.MR.MARTINEAU: I knew more than I thought I did.

MR. SINCLAIR: It means exactly what you said, sir, checking it with mathematics. What this

means is that a basic day is 100 miles and for this run of 131.9 miles there is a basic day and 31.9 one hundredths of a second day paid for each run which works out to raise the whole run from eight hours to ten hours and 34 minutes based on dividing $12\frac{1}{2}$ into 131.9. Now, that is the way the pay works in the dual basis of pay. If the train over the run from Farnham to Megantic took more than 10 hours and 34 minutes the crew would be on overtime. If it took less they would get the miles, not time at all. So Mr. Frairie has for purposes of comparison translated to get the common denominator throughout the time these trains took to go over these runs to the proportion that time is of the basic day and expressed it as a percentage of the equivalent of the basic day.

HON. MR. McLAURIN: Would it be a reasonable thing, now to go to the Mountain subdivision from Field to Revelstoke? All you want us to do is to look at Field to Revelstoke and Megantic.

MR. SINCLAIR: Compare it with the western ones, yes.

MR. MARTINEAU: Could we before we do that, I don't see, I am not sure yet I see the second part.

HON. MR. McLAURIN: I am not either.

HON. MR. MARTINEAU: It is the 64.4 per cent that I am not so sure of.

J.N.Frairie

MR. SINCLAIR: Well, five hours and 45 minutes is the time for train 951.

HON.MR.MARTINEAU: And is this five hours and 45 minutes 54.4 per cent of 10 hours and 34 minutes?

MR. SINCLAIR: Correct, sir.

HON. MR.MARTINEAU: That is what it is.

MR. SINCLAIR: THAT is right.

HON.MR.MARTINEAU: So the man gets paid for ten hours and 34 minutes basic pay even though they work only five hours and 34 minutes.

MR. SINCLAIR: That is right

MR.LEWIS: Mr.Chairman, may I with my friend's permission since the last bit of information was given by him.- I am not saying that in any criticism.-explain this: Just to make clear that his approach in his instance is not the approach which is in my opinion a proper approach to an analysis of the basis of pay. If you wish I can take a moment to suggest what in my opinion it should be.

THE CHAIRMAN: It is just Mr. Sinclair's basis.

MR. LEWIS: I just want to put it on record that while I have not any disagreement with the figures he has used it will be my respectful submission that that is not a proper way of analysing the basis of pay.

J.N.Fraine

HON.MR.McLAURIN: Well, we can't monkey with any pay except differential.

MR. LEWIS: I appreciate that, sir, but I think when Mr.Sinclair suggests that people are working 54.4 per cent of a certain number of hours and lays that down as a sort of relative consideration it will be my submission that it is not that at all.

HON. MR.MARTINEAU: You see, he uses figures which are exact. It is his own case but they may not well be the figures you would use yourself.

MR. LEWIS: So I might say the figures are completely irrelevant to the point at issue.

HON.MR.MARTINEAU: In any event I should have put those questions to Mr. Fraine.

MR. SINCLAIR: If/^{what}my friend wants to say is that engine crews do not work by hours but by miles my answer to that is yes, and as Mr.Fraine says in most cases yes they do not work by hours but by miles and we for purposes of comparison have taken what they get paid and reduced it to hours to have a common denominator throughout to show what proportinn of the hours they work actually to the time that they can be required to work before going on overtime compared with various runs across the system.

THE CHAIRMAN: You are entitled to put this in for what it is worth.

HON.MR.McLAURIN: That is a differential that is hard to getrid of.

J.N.Fraire

MR. SINCLAIR: I don't think it is hard to get rid of at all, sir, except that it is in an agreement and that is one of our situations. That will be a matter for argument.

THE CHAIRMAN: Are you going to be some further time?

MR. SINCLAIR: No sir, I am just about finished. This is the last exhibit I have.

MR. LEWIS: May I ask another question so we have this clear? The times given, four o'clock p.m. to 9.45 p.m. for train 951, the five hours and 45 minutes, that I understand is the timetable time, it is not the actual time taken? It is the time scheduled in the time card.

MR. SINCLAIR: Yes, on most of the runs on the Canadian Pacific our answer to that would be that we put them in the timetable to make the time set out on the timetable.

THE CHAIRMAN: That is not what Mr. Lewis has in mind here. You have **in** the time no preparatory or terminal time?

MR. SINCLAIR: No, **this is** just the timetable time, sir.

HON.MR.MARTINEAU: It is not always the timetable time on the 4.40 to Montreal on Friday afternoon.

MR.SINCLAIR: The reason for that is that we carry so many senators and members of the House of Commons that we have to make extra stops but



J.N.Fraine

we will try to do better.

MR. LEWIS: Anyway, my learned friend had a grin when he made that statement. The record cannot carry it but I saw it.

THE CHAIRMAN: What is the next question?

BY MR. SINCLAIR:

Q What comment do you wish to make?

A I think perhaps I should say that I selected that equivalent basic day merely for purposes of comparison on one subdivision with another. It is merely a common denominator and if you would like to take the Farnham-Megantic run the fastest train occupies 54 per cent of the equivalent basic day, the slowest train occupies 63.1 per cent of the equivalent basic day.

Q Now, compare that with the Mountain which is all Mountain differential territory, Mr. Fraine?

A Well, on the Mountain subdivision the similar figures are: the fastest is 47.1 per cent of equivalent basic day and the slowest is 53.7 per cent.

Q That is where there is no mountain differential, no differential at all, the proportion of the basic day that is taken up on the Farnham-Megantic exceeds by some margin the time taken on the territory where there is a mountain differential?

A Yes.

THE CHAIRMAN: And what is your submission

J.W.Fraire

based on that?

MR. SINCLAIR: My submission on this, sir, was that Mr. Gossage said that one of the reasons for the mountain differential -- there were two reasons as I recollect his evidence, the arduous work of the fireman which is what the diesel has eliminated and the other point was time taken over the road and we are showing in territories where there is no differential that time over the road is even greater than where this differential is being paid. Now, that is one example and we will also argue and submit sir, that there are greater differences between territories in the east and there are between mountain and valley territories in the west today.

I think that all the points that can be made from this exhibit which are submission points are all there. Not universally do all eastern trips take longer than the mountain or the valley, there are exceptions and there are exceptions the other way. What my argument would be is that the time over the road is not the pattern for pay.

THE CHAIRMAN: When you speak of time over the road why don't you stick to the actual time over the road instead of introducing this witness' figures?

MR. SINCLAIR: Well, sir, you can't take actual time because taking, for instance, the first two examples, the first one Farnham-Megantic is 131.9 and the man gets paid for 131.9 miles.

J.N.Fraine

the next one, the Smiths Falls to Chalk River it is 115.3, and the distance that they go would, of course, have an effect on the time, so therefore you have to get a common denominator and the time is not a common denominator until it is reduced to a basic factor which is the equivalent basic day.

THE CHAIRMAN: Well, just glancing over this exhibit the distances are really not very much out. They are roughly comparable -- 131 and 115, 103, 126, 130, 108 as against the mountain subdivision, 125, Thompson 121.

MR. SINCLAIR: Well, the two my friend asked for were the Galt 103.15 and Swift Current 108.5. Working it out between 100 miles and 125 miles taking 100 miles to be Toronto to London, that is the Galt he asked for, and the mountain subdivision of 125 miles has an effect of another quarter basic day's pay.

THE CHAIRMAN: I see.

HON. MR. McLAURIN: What you are really doing is saying in the interest of fairness you are managing on an actuarial basis to get a common denominator?

MR. SINCLAIR: Yes.

HON. MR. McLAURIN: And some day we are going to hear a lot of argument about that.

MR. SINCLAIR: Well, not a lot. Mr. Fraine made them in one exhibit. The accurateness of it I am only able to say Mr. Fraine made them and checked them.

J.N.Frairie

I think they are right. If they are not I wish someone would draw them to my attention.

THE CHAIRMAN: I don't expect to find they are wrong.

BY MR. SINCLAIR:

Q Is there any other particular point that you wish to comment on on Exhibit 115 or has the discussion I have had with the Commission set them out to your satisfaction.

A I think it is apparent that there is a variation between subdivisions and in the subdivisions themselves. I would like to draw the Commission's attention to the fact that some of the subdivisions are partially double-tracked and partially single-tracked whereas the mountain subdivision has a very little bit of it.

THE CHAIRMAN: Very little bit of what?

MR. SINCLAIR: Double track.

BY MR. SINCLAIR:

Q And that, of course, affects the time over the road?

A Yes, it certainly does.

MR. SINCLAIR: Well, now, so as to have these altogether I will put in with your permission myself rather than through Mr. Frairie, in volume 3 at page 287, Mr. Lewis in questioning Mr. Gossage and following a remark made by you, Mr. Chairman, asked for -- Mr. Gossage was giving a comparison between the mountain and Thompson subdivisions today

J.N.Fraire

that is, miles per hour and they were very close indeed. Mr. Lewis asked at page 287 and 288 that the comparison be got for the same days and I have got that information now. I will read it in. This is a memorandum in connection with information requested in volume 3, page 288, lines 3 to 16.

"Average schedule speed of symbol trains on mountain subdivision and Thompson subdivision based on average of July, 1950 and February, 1951, (steam operations).

Mountain subdivision extended 16.8 miles per hour.

Thompson subdivision 21.2 miles per hour" and there are arguments and points that flow from that.

MR. CHAIRMAN: You are not putting it in.

MR. SINCLAIR: No, I am not putting it in. I have read that into the record. That concludes my examination of Mr. Fraire.

THE CHAIRMAN: I understand, Mr. Lewis, you do not wish to start your cross-examination until Monday morning.

MR. LEWIS: If it meets with the Commission's approval, yes sir.

THE CHAIRMAN: Then we have been having some discussion about the future times and we would like to discuss that with counsel. Shall we do it now.

MR. SINCLAIR: Yes, sir.

MR. LEWIS: Yes, sir.



J.N.Fraire

THE CHAIRMAN: Then we will adjourn.

--- The Commission adjourned at one p.m. until
Monday, April 1, 1957 at 10.30 a.m.
